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THE FUTURE OF ECONOMIC THEORY.

A POINT on which opinions differ is the capacity of the pure theory of Political Economy for progress. There seems to be a growing impression that, as a mere statement of principles, this science will soon be fairly complete. There remains, indeed, to be added to the list of accepted truths a theory of Distribution; but materials, at least, for such a theory are to be found in recent literature. Explanations of wages and interest that cannot be far from the truth have been offered; and, if it shall soon appear that any of these is demonstrating its correctness, and taking in the science the assured place that the modern theory of Value has already won, there will be a disposition to say that at last the theory of Economics has reached the condition in which, with only minor changes and additions, it is likely to remain.

It is, of course, true that the theories of Value, Wages, Interest, and Profits, constitute, in so far as importance goes, two-thirds of the theoretical science of Economics.

It is over questions of distribution that social classes contend with each other. Is property robbery? Does society need revolutionizing? The answer depends on the question whether, under free competition, wages are the specific product of labor; and this is one of the many points that are to be decided by a theory of Distribution. If, therefore, we are not in error in thinking that scientific thought is now on the right track, in connection with the problems of Distribution, and if there is soon to be a unanimity of view concerning the laws of Wages, Interest, and Profits, then, indeed, it is of importance to know whether any very great theoretical work is still in the future.

On the supposition that some one of the theories of Distribution that are now candidates for acceptance will soon reveal its own correctness, or that some modification of one of these will be adopted, or that out of them all some eclectic theory will be formed that will win assent, will the pure theory of Economics have further and large achievements immediately before it? There seems to be an impression that it will not.

It is with this view that I take issue. The great coming development of economic theory is to take place, as I venture to assert, through the statement and the solution of dynamic problems. Static problems have heretofore had most attention. That which in Ricardo's studies figured as a "natural value" is really a static value. It is a value that would be realized in a market if certain changes that are transforming society were stopped, and if the prices of goods were allowed to reach and keep the rates that a perfectly free competition would then establish. The wages and interest that in such studies would be regarded as normal are, in the same way, static wages and interest. The greater problems of the future concern dynamic values and dynamic wages and interest.

The difference between static problems and dynamic

ones becomes apparent if we divide the science of Political Economy in a natural way. This is a new mode of dividing the science; and it involves the abandoning of the time-honored plan of separating the whole of Political Economy into four parts, treating respectively of Production, Distribution, Exchange, and Consumption. The difficulty with this mode of dividing the science is that it gives parts that are not distinct from each other. Production, indeed, as it is carried on in a social state, is a process that includes both exchange and distribution. Production is the bringing of commodities into existence; and, in any state except the most primitive one, it is accomplished by a division of labor. The producer is personally a specialist, selling an article or a part of an article, and buying what he needs with the proceeds. Only society in its entirety is an all-around creator of goods. This is equivalent to saying that social production is accomplished by means of exchanges. The passing of goods from hand to hand enables all society to make all goods; and the two expressions, "Division of Labor," on the one hand, and "Exchange," on the other, merely describe in two different ways the organized process of creating wealth. It is contrasted with the method of isolated and independent production. Let a thing stay in one man's hands until it is finished and in use, and production is not yet socialized. But let it pass from hand to hand in the making, and it is so. Society in its entirety is the one producer of wealth; and exchange is the socializing element in production. It is a feature of the more comprehensive process.

There is a kind of distribution that merely adjusts the incomes of what may be called industrial groups in their entirety, and does not settle questions of wages and interest. When wheat is high in price, the whole group of wheat-raisers gets a large return. How much of it goes to laborers and how much to the owners or the tenants of

farms is a further question; but high-priced wheat means much money to be apportioned somewhere among them. In like manner dear steel means much money for the whole group of steel-makers. The study of Value is, then, a study of Group Distribution. Yet it is a study of a feature of exchanges, and these are a feature of social production.

In another way is the distributing process identified with production, since, if modern theories are not wrong, the share of wealth that falls to any producing agent tends, under natural law, to equal the amount that he creates. A man's pay tends to equal the value of the product or fraction of a product that can be specifically imputed to him. The whole study of Distribution is, in this light, nothing but a study of Specific Production. It traces the wealth that society as a whole creates backward to the agents that have brought each specific part of it into existence. Production itself is a synthesis, in which countless agents bring each its contribution to the grand total of the world's income. Distribution is merely the undoing of this combining process. It is an analysis, and traces the wealth that has been synthetically created back to its ultimate sources.

All of the process of distribution, then, is included in production. The adjustment of values is group distribution, but it is also a feature of exchange. Exchange is merely the socializing feature of production. We cannot here stop to show how completely entangled with each other are the first three of the four traditional processes that it has been customary to treat in separate parts of the science. It is, however, clearly impossible to account for the fact that a man who wields a pick in excavating ground for a cellar gets \$1.25 a day, without discussing subjects that belong to the theories of Exchange and Distribution; yet at no time would the economist cease to be within the field of Production. He would have to

ascertain how much the man's group produces, and what part he personally contributes to the group's product. Not unfit for use as descriptive terms, but absolutely unfit for use as subjects of distinct division of the science of Political Economy, are the terms Production, Distribution, and Exchange.

Consumption is not an organized process at all. We make things collectively, but we use them each man for himself. We like to eat together, indeed, and to enjoy many things in company; but we do not co-operate in eating, as we do in producing food and other commodities. Consumption is an individualistic operation; and a treatise that limits itself to a distinctively social economy would not treat of it at all. It would assume that consumption is going on, and that production has no other object than that consumption may go on; but it would not include in itself any discussion of the consuming process. Production, on the other hand, in the civilized world must go on in an organized way; and exchange and distribution are involved in the organizing of it. Production includes all of the economic process that is strictly social. Consumption is not a good term to describe any part of such a strictly social economy.

Let us see whether the science can be divided on another plan. There are three distinct kinds of force working together in social economics. If we study them separately, we shall resolve economic science into three divisions, the boundaries of which have been drawn by nature. Man modifies matter by production; and matter modifies man through consumption. These processes do not necessarily require any organization on the part of the men who impart and then receive the impressions. All this could be accomplished by an isolated man or by men living together for protection or the mere pleasures of association, without any system of exchange of products. Let every one make his own goods and consume them, and an economic life of a certain kind is complete.

The distinctive feature of such a life is that it establishes direct relations between the individual man and nature. Every man subdues for himself a part of his material environment; and he gets the direct service that this bit of nature, when thus subdued, can render. There are no disguises thrown over the relation that workers sustain to the earth. Obvious dependence on nature, obvious independence of other men, is the rule of every one's economic life. Out of materials furnished by the earth each producer creates his own income; and there are no problems of distribution connected with it.

Yet in this mode of living, which puts every man face to face with nature, there is room for the action of all of the more fundamental laws of economics. Here is a hunter in a primeval forest converting the flesh of animals into food and their skins into clothing and shelter. He is creating something that can be defined as wealth. It has the essential marks that analysis detects in the wealth that crowds the shops of the modern city. The man uses capital, and includes in his equipment both the fixed and the circulating varieties of it. His consumption has its laws; and the chief of them is the one that calls for variety in the things consumed. He must not make and use too much of one kind of product and too little of another. He must guard against glutting some wants and letting others go unsatisfied, if the wealth that he creates is to do him much good.

There is a distinct set of economic laws, the action of which is not dependent on organization. They are fundamental; and what we have now to note is that they are universal. They act in the economy of the most advanced state, as well as in that of the most primitive. Wealth has everywhere the same distinguishing marks. The producing and the consuming of it are always subject to the same general conditions. The first natural division of economic science should present the universal laws of

wealth. It should discuss the more general laws of production and all the laws of consumption.

There is next to be studied a second set of phenomena. They are traceable to a further set of forces; and these originate in relations between man and man. They are made to work wherever persons begin to exchange products. This organizes society in groups, or specific industries. Let some men produce food and others build huts, and let them exchange products with each other, and things happen that are not accounted for by the laws of that general economy in which the direct relations of man to nature are explained. Exchanges involve the determining of values; and these, as we have seen, fix the terms of group distribution.

The organization of society is further extended when, within each group, or specific industry, there are employers paying wages to the men who labor and interest to those who furnish capital. Distribution, in a broad definition of that term, is that which results from organizing the wealth-creating powers. The division of economics that treats of it will first deal with group distribution, which depends on exchanges. It will describe the formation of the groups, account for the terms on which they buy and sell from each other, and show on what the income of each of them depends. It will then deal with that final distribution which takes place within each subgroup, and which fixes the wages, the interest, and the profits that are there received. This is equivalent to showing what becomes of the income that comes to a group as a whole. Laborers get some of it, capitalists get some, and *entrepreneurs* get the remainder. Broadly conceived, and made to include a description of the system of industrial groups, and of their dealings, the science of Distribution embraces the Social Laws of Economics. It tells all that happens in consequence of the one fact that society has organized itself for Production. The term Distribu-

tion cannot be used as the title of a scientific division, if the use of it carries with it the idea that what is treated under this title is not Production and is not Exchange. Distribution is a process that, in its completeness, includes Exchange. It falls itself entirely within Production. It is not best to characterize the second natural division of economic science as the science of Distribution, since the idea of distinctness from Production and Exchange attaches itself, in the public mind, to this term. It is best to describe it as the division that treats of the Social Laws of Economics, as distinct from the general laws. When we know what happens in consequence of the economic actions and reactions that are taking place between man and nature, we have the content of the first division of the science. We need, further, to know what takes place in consequence of relations between man and man; and this will give us the content of the second division.

It is conceivable that production might go on in an organized way, without any change in the character of the operation. Men might conceivably produce, to the end of time, the same kinds of goods; and they might do it by the same processes. Their tools and materials might never change; and they might not alter, either for the better or for the worse, the amount of wealth that their industry would yield. Social production can be thought of as static.

In such a changeless mode of social industry, distribution, with all that it involves, would take place. Groups would exchange products, and each would be dependent on the value of its own goods for the amount of its collective income. The price of agricultural produce would determine the income of farmers, and the price of ore would fix that of miners. The gains of a group as a whole would be divided among the sub-groups composing it, and would then, by a further operation, be parted into wages, interest, and profits.

We saw that what are called natural standards of values, and natural or normal rates of wages, interest, and profits, are, in reality, static rates. They are identical with those which would be realized if a society were perfectly organized, but were free from the disturbances that progress causes. Far more than classical economists were aware of is involved in a thorough-going study of what they called natural values.

Reduce society to a stationary state; let industry go on with entire freedom; make labor and capital absolutely mobile,—as free to move from employment to employment as they are supposed to be in the theoretical world that figures in Ricardo's studies,—and you will have a *régime* of natural values. They are the values about which rates are forever fluctuating in the shops of commercial cities. You will also have a *régime* of natural wages and interest; and these are the standards about which the rates of pay for labor and capital are always hovering in actual mills, fields, mines. The terms, "natural" and "normal" and "static," as used in this connection, are synonymous. The division of economic science that presents natural standards of values, wages, and interest, ought consciously to take the shape of a static theory. Such a theory would treat of Distribution as it would go on if there were taking place none of those grand disturbances—changes in the mode of production—that are forever causing market quotations to vary from the natural standards of the classical economists.

A static state is imaginary. All actual societies are dynamic; and those that we have principally to study are highly so. Heroically theoretical is the study that creates, in imagination, a static society. Unceasing changes in the actual world thrust labor and capital, from time to time, out of one occupation and into another. In each industry that is carried on they again and again change the modes of production, and the kinds and the quantities of

the goods produced. Yet this does not invalidate the conclusions of a static theory. Static laws are real laws. The forces that would work in a world that should be held in a fixed shape and made to act forever in a fixed manner operate still in the changing world of reality. We can always see them working in connection with other forces; but we can only imagine them working alone. We study them separately, in order that we may understand one part of what goes on in dynamic societies. To do this, we create in imagination a static society; and it is a heroic but necessary application of the isolating method.

Only by reasons of its omissions is the imaginary and static state unlike the real and dynamic one. All the forces that would work in the unchanging world are not only working in the changeful one, but are even the dominant forces of it. They do not keep values exactly at the natural standards; but they keep them fluctuating about those standards, and they keep real wages and interest always comparatively near to the natural rates.

We have described the boundaries of two of the natural divisions of economic science. The first treats of universal phenomena, and the second of phenomena that result merely from organization, and not from any change or progress in the character of the organization. Starting with those laws of economics which act whether humanity is organized or not, we next study the forces that result from organization, whether it is progressive or not. This latter study gives us a theory of Social Economic Statics.

Finally, it is necessary to study the forces of progress. To influences that would act if society were in a stationary state, we must add those that act only as society is thrown into a condition of movement and disturbance. This will give us a science of Social Economic Dynamics. It will bring the society that figures in our theory into a condition that is like that of the actual world. It will

supply what a static theory openly and intentionally puts out of sight; namely, changes that alter the mode of production, and act on the very structure of society itself. A study of these changes is the content of the third natural division of economic science.

Wants are changing, and the kinds of wealth that are produced must change with them. New mechanical processes are coming into use. Machines supplant hand labor, and efficient machines displace inferior ones. New motive powers are taken into service, and new raw materials are used. Population increases and migrates, taking with it some of the increase of its wealth. Large industries grow up and crowd small ones out of the field. The earth becomes crowded with life and wealth. An adequate study of such changes is impossible unless it is preceded by a study of natural or static standards of value, wages, interest, and profits.

Not any of these changes suppresses the action of static forces, nor do all of them together do so. Not one jot nor one tittle shall fall from the law of natural values, or from that of natural rates of wages, interest, and profits. A different set of forces is acting in connection with the static ones; and real values, wages, are the resultant of the two kinds of force. In advancing to the study of dynamic phenomena, our theory completes itself; and the effect is to make it fully interpret the world of fact. A theoretical dynamic world is exactly like the actual world, if the theory that constructs it is a valid and complete one. It has the elements of disturbance and of friction to which men of business point, as influences that invalidate theoretical conclusions. If the study of it were carried to completion, it would furnish what has heretofore been lacking; namely, a science of economic friction and disturbance.

In so far as method is concerned, a theory of Economic Dynamics must use deduction, as did the theories of the

Ricardian school. It must base itself on the conclusions of Economic Statics, which, as we have seen, are unpromisingly theoretical. Yet realism is the striking trait of the dynamic theory. It includes in its field of view just the elements that have been needed to make a deductive economic science fully interpret the world of fact, and satisfy practical minds.

In the markets of all parts of the world where competition rules the standards about which prices fluctuate are set by static forces; and the fluctuations are accounted for by dynamic ones. Actual prices are now above the standards, and now below them. A pendulum is now on one side of an imaginary vertical line, and now on the other. The vertical line coincides with the position that it would hold if it were under the influence of static forces only. Its oscillations are due to dynamic forces; and these can be measured if we first know the nature of the static forces, and the position to which, if they were acting alone, they would bring the pendulum. The oscillations of prices about the natural standards can be accounted for only by a similar plan of study. We must have, at the outset, the static standards of price to which the market tends to conform. The same thing is true of natural wages and interest, and of the fluctuations about these standards. It is dynamic causes that produce variations.

This, however, is not the largest effect of dynamic forces. We shall not have learned the most important thing about them when we have accounted for the deviations from natural rates that actual values, wages, and interest show. We shall further see that dynamic forces create new conditions in which static forces must work. In these new conditions natural values cannot continue to be what they were in the former conditions. The price of cotton cloth that is entirely natural, when this fabric is made by hand, is far from being so when it is made by

machinery. The normal price of cotton cloth fell in consequence of the inventions of Watt, Hargreaves, Arkwright, and Crompton. Before these men did their work, the price of the cloth was fluctuating about one natural standard: afterwards it fluctuated about another. The normal level of wages is rising, and that of interest is falling, in consequence of far-reaching dynamic influences. At any one time there is one standard of value, wages, and interest set by static forces; and at that time the temporary fluctuations of actual rates about these standards are due to dynamic causes. At a later time it will be found that the standards themselves have undergone a change; and these grander effects are the most important ones that are attributable to dynamic forces. A theory of mere disturbance and variation is, indeed, included in the science of Economic Dynamics; but the more important thing that is included in it is a theory of progress. The normal wealth of the world will be greater and the natural level of wages will be far higher in the year 2000 than they are to-day, if the greater forces of economic dynamics shall continue to work.

Is it not already clear that this field of investigation is an indefinitely fruitful one? It would become clearer that this is the fact if it were practicable here to describe, in a detailed way, the particular problems that have to be solved in a theory of Social Economic Dynamics. They include every possibility of gain that can come to humanity by economic change. They are essentially new problems, because the prevailing mode of economic study has not heretofore isolated them, brought them clearly into view, and afforded the data for solving them. Not without references to change and progress has been the theory that has formed itself on the old and baffling plan of a fourfold division of the whole science into Production, Distribution, Exchange, and Consumption. Statics and dynamics are blindly commingled in such theories. An

adequate treatment of change and progress is needed; and it must be preceded by a thorough-going treatment of purely static forces. We must get the normal standards of value, wages, and interest, if we are to measure the deviations from them that rates show in the business world. What is far more important is that we should have the natural standards of to-day, compare with them the standards of to-morrow, and measure and account for differences between the two sets. The reduction of progress to a science,—such is the work of a theory of Social Economic Dynamics.

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THE GAS SUPPLY OF BOSTON.

II.

IN a previous article* I gave an outline of the steps leading up to the placing in trust of a majority of the stocks of four of the gas companies in Boston, and the issuing of the Boston United Gas Bonds. To understand the subsequent history of these companies and their relation to companies not in the trust, it will be necessary at this point to enter somewhat more fully into the details of the trust agreements, dated January 1, 1889.

As already indicated, the trust was made broad enough to include all the companies in the vicinity of Boston, provided they could be brought under control at advantageous prices. Therefore, the agreements were drawn to cover the stocks already contracted for, and at the same time to provide for the possible purchase and deposit of the other stocks. At the time the trust agreements were executed but four of the companies were actually under control of the trust; namely, the Bay State, the Boston, the South Boston, and the Roxbury companies.

The trust agreements set forth that the owners† had agreed to purchase 4,800 shares of the stock of the Boston Company, 5,800 shares of the stock of the Roxbury Company, and 3,900 shares of the stock of the South Boston Company, and that, if they could do so at favorable prices, they proposed to buy the remaining shares of the stock of these three companies and all the stocks of the Charlestown, the Chelsea, the Dorchester, the East Boston, the

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† For the sake of brevity the three parties to these agreements will be designated here as they are in the texts of the agreements: Messrs. Addicks and Dillaway as the owners (of the stocks), the Mercantile Trust Company of New York as the trustee, and the Bay State Gas Company of New Jersey as the Gas Company.

Jamaica Plain, the Malden and Melrose, the Newton and Watertown, the Waltham, the Brookline, and the Cambridge companies.

The agreements further declared that the owners required \$12,000,000 to enable them to pay for these stocks, and desired to raise this sum by issuing certificates to that amount and pledging the stocks for the payment of the certificates, and that the Gas Company had agreed to issue its bonds for the amount required, and the trustee to indorse its certificates upon the same, upon the conditions set forth in these agreements. As already stated, the collateral trust bonds were to bear five per cent. interest, payable semi-annually, to run fifty years, and were payable in gold. The times, methods, and conditions of issue, so far as they concern our present purpose, were as follows. The Gas Company agrees to deliver its first series bonds for \$12,000,000 to the trustee, who will indorse his trust certificate upon them. Then, upon the payment by the owners to the trustee of \$322,380 in cash and the delivery to the trustee of the shares already contracted for, the trustee will deliver to the owners \$7,000,000 of the first series bonds. This issue of \$7,000,000 was based on an estimate of the entire capital stock of the companies concerned. The cash payment was to furnish a source from which the trustee could pay for the minority shares as the owners purchased and deposited them, as they reserved the right to do at prices fixed in the agreements.

These \$7,000,000 in bonds were actually delivered to the owners in the summer of 1889*; and, apparently, all but about \$1,000,000 of them were floated in London. This is supposed to be the source from which the money came to pay for the stocks of the Boston Company.

* It will be recalled that the contract by which the owners got control of the Boston Company is dated March 26, 1889. On July 31, 1889, the New York Exchange listed \$5,000,000 of these bonds, and voted to list the other \$2,000,000 as soon as they should be issued by the trustee.

\$3,000,000 of the remaining \$5,000,000 of the first series was to be issued in sums of not less than \$1,000,000 at any one time upon the deposit of a majority of the stocks of any of the other companies named, in sufficient quantities, at prices fixed in the trust agreements in each case. It is, perhaps, needless to say that the object of the trust would be defeated if bonds should be issued upon the stocks of any company before a majority of the stock of the company was deposited. The owners afterwards succeeded in getting control of one of the smaller companies,—the *Dorchester*. But the holders of gas stocks generally asked such high prices that these "owners" were never able to procure shares in sufficient quantity, at advantageous prices, to deposit them under the \$1,000,000 rule. Consequently, no other companies have ever been brought under the terms of these agreements; and the stocks of the *Dorchester Company* were held as an asset of the *Bay State Company of Delaware*, which these "owners" control.

The remaining \$2,000,000 of this possible issue could be put out under either one of two conditions: First, by the deposit by the owners with the trustee of any bonds or stocks which, in the opinion of *Brown Brothers* (bankers) of New York, justified such an issue, the trustee might issue \$1,000,000 more of the bonds. Second, if, in the opinion of the same referees, the value of the property represented by the stocks already in trust should, because of improvements, justify it, the trustee might issue bonds to represent such increased value. Under this last provision, additional issues have from time to time been made, amounting in all to \$1,000,000.

Still further, when the legislature of Massachusetts in 1893 destroyed and caused to be cancelled the obligation for \$4,500,000, it allowed the *Bay State Company of Massachusetts* to issue additional stock to the extent of \$1,500,000, bringing the stock of this company up to \$2,000,000, the value of the property of the company at

that time as judicially determined. The trust agreements allowed the Bay State Company of Delaware, which received this additional stock of the Bay State Company of Massachusetts in exchange for the obligation, to deposit the stock with the trustee. Thereupon the trustee issued \$1,000,000 of Boston United Gas Bonds, first series. This brought the total issue of this series up to \$9,000,000, the amount now outstanding.

The agreement for the issue of \$4,000,000 second series Boston United Gas Bonds is of even date with the other, and offers but little of interest in this connection. It is, in general, the same as the agreement for the first series, except that the second series is subject to the first series as a prior lien. After setting forth that the owners needed \$4,000,000 additional money to complete the transactions referred to in the first agreement, provision is made for this issue. Of the \$4,000,000 the trustee agrees to deliver \$3,000,000 with the first instalment of the first series. So much was done. The remaining \$1,000,000 has never been issued; for this portion of the issue was made dependent upon the deposit of a majority of the shares of the Cambridge Company, and the holders of the stock of that company have never been willing to sell at what the Bay State interests regarded as reasonable prices. This gives, therefore, a total issue of the trust certificate bonds of \$9,000,000 first series and \$3,000,000 second series,—the maximum amount ever put out, and all still outstanding.

The trust agreements expressly provide that nothing shall ever be done under them to hinder in any manner any one of the corporations from fulfilling all of its corporate duties to whomsoever owed. The trustee agrees at all elections of directors to vote for persons whose names are suggested by the owners, and, in the absence of any such designation, to vote for persons whose names are suggested by at least one-third in interest of the certificate

holders, and, in case it becomes necessary, agrees, further, that he will transfer a sufficient number of shares, not exceeding ten, to qualify any such person for the office of director. The owners bind themselves, their assigns and the directors elected upon their nomination, never to place liens, mortgages, or floating debt upon the property of the companies, and never to allow the capital stock of any of the companies to be increased except upon condition that such portion of the new shares be deposited with this trustee as to make the proportion of all the stock in trust as great as at present. The owners further bind themselves to sign and execute any other contracts or agreements necessary, or deemed necessary by the trustee, to carry out all the purposes of the trust. In case of the alienation of any real estate or other property of any of the companies, the proceeds of such sale must be applied in full to the purchase of other similar property needed by the company, or be handed over to the trustee, to be applied to the sinking fund to pay the principal of the trust certificate bonds.

Upon these terms the trustee agrees to receive from time to time all dividends and profits upon the stocks deposited, and, after deducting his own compensation, together with all taxes and other expenses of administering the trust, to provide a sinking fund sufficient to pay each year, after 1894, an amount of the principal of the debt equal to at least one per cent. of the total debt created by the trust. After all of these payments are made, the trustee agrees to apply the remainder of the profits of these stocks first to the payment of the interest in full of the trust certificate bonds, and then to deliver to the owners any surplus remaining in his hands. The owners on their part agree at any and all times to make good any deficits that may arise in the funds necessary to meet all the above payments, and to carry out in full any and all other purposes of the trust.

Careful provision is made for closing up the trust in case of default in interest or sinking fund. If any interest coupon remain due and unpaid for three months, the trustee may, and upon the request of the holders of one-fourth in amount of the certificates must, declare the principal of the debt due; and, if for any reason, at any time, the principal remains due and unpaid for a period of thirty days, the trustee may, and upon the request of one-fourth in interest of the certificate holders must, proceed to sell the stocks and property held in trust by him for the benefit of all the certificate holders, equally. But all the stocks must be sold together in one block. The trustee, upon the request of the holders of one-fourth of the certificates in amount, is required to bid in the stocks at such sale on behalf of all the certificate holders; but the price paid shall not exceed the amount of certificates then outstanding.

Elaborate provision is made for replacing the trustee in case of removal or resignation. The trustee is removable by the certificate holders at any meeting duly called for that purpose, provided a majority of those present vote for such removal, and that such majority represent at least one-tenth in interest of the certificates.

As already indicated, the owners, even before the execution of the trust agreements, but really as a part of the trust arrangements, had entered into contracts to sell all their interests in the stocks of the Boston gas companies to the Bay State Gas Company of New Jersey. This sale was subject only to the terms of the trust agreements, which at that time had been drawn and were merely awaiting execution. The consideration given by the Gas Company for these stocks consisted of: (1) paid-up capital stock of the Gas Company to the amount of \$995,000, being all but \$5,000 of the capital stock at that time authorized; (2) \$5,000,000 additional stock of the Gas Company when the capital stock should be increased to \$6,000,000, such increase having already been planned, being authorized by

vote of the directors on July 10, 1889; (3) the complete issue of the trust certificate bonds, first and second series, as provided in the trust agreements. For these considerations Messrs. Addicks and Dillaway assigned to the New Jersey Company all their right, title, and equity in the stocks of these four Boston gas companies. It will not escape observation that by this sale these private "owners" became the corporate "owners" of virtually the whole stock of the New Jersey Company, which, of course, by this contract assumed all the obligations of the owners under the trust agreements. The first series of trust certificate bonds was protected by allowing the holders of these bonds to attend all meetings of the stockholders of the Gas Company, and to vote at the same at the rate of one vote for each \$200 in bonds. The proportion of the total voting power of the company granted to these bondholders was to be maintained in case the company issued additional stock or gave voting power to any other securities. This provision was not likely to throw the balance of voting power into the hands of the bondholders. For it was based on a share capital of \$6,000,000, all held by the same parties, who could, by a very small holding of bonds, control the action of the company, even if the whole \$12,000,000 of first series bonds should be issued. But it was highly improbable from the first that so large an amount of bonds as \$12,000,000 would ever be put out.

In August, 1889, Messrs. Addicks and Dillaway entered into a contract with the Bay State Gas Company of Delaware, by which that company acquired the \$995,000 of stock in the New Jersey Company, together with any additional stock to be issued under the agreement of March 13, 1889, as well as all the other rights, title, and interest of Messrs. Addicks and Dillaway in that agreement.

This particular chain of contracts, in which these two

persons, acting as one party, were contracting with themselves, was brought to a close by an agreement between the Bay State Gas Company of New Jersey and the Bay State Gas Company of Delaware, under date of April 9, 1890. By the terms of this contract the New Jersey Company assigned all its rights, title, interest, and equities in the Boston gas stocks and in all the above-mentioned contracts and agreements to the Delaware Company, which in its turn, of course, assumed all the debts, agreements, contracts, and obligations of the New Jersey Company. The Delaware Company thereby became responsible, among other things, for the principal and interest of the trust certificate bonds. The nominal consideration given by the Delaware Company, as appears from the face of the contract, was (1) the sum of \$150,000 which the Delaware Company had previously lent to the New Jersey Company, and (2) one-tenth of 1 per cent. on the share capital of the New Jersey Company for the time being, plus \$1,000, both to be paid annually on January 1. This payment was apparently required for the purposes of meeting the expense of maintaining the corporate organization, and possibly for paying some corporate salaries.

It will be observed by one who has followed all the previous steps that Messrs. Addicks and Dillaway, whether contracting under one name or another, have always as a single party represented both sides in every contract. With the closing of this last-mentioned contract, we reach, after a multiplicity of such contracts covering a series of about six years, a comparatively simple stage in these affairs. To sum up the situation, we find a majority of the stocks of four of the Boston gas companies held in trust for the Bay State Gas Company of Delaware, which stands bound to pay the interest and principal of \$12,000,000 of trust bonds as well as all other expenses of the trust. This Delaware Company has also complete control of all the subsidiary companies, and of

the obligation for \$4,500,000 issued by the Bay State Gas Company of Boston, and, as such owner, is entitled to the dividends and interest that may be drawn from the same.

Let us now retrace our steps a little, to see what the Boston Gas Syndicate cost. The trustees of the Syndicate received each a salary of \$2,500 per year, and, jointly, 2 per cent. commission on all the funds disbursed by them. The cost of putting the stocks in trust up to April 11, 1889, according to the books of the Syndicate, amounted, in all, to \$277,712.82, divided as follows:—

Commissions	\$188,461.50 *
Salaries	66,657.65
Office expenditure	16,301.02
Legal expenses	6,292.65
Total	<u>\$277,712.82</u>

It may be remarked, in passing, that this is equal to 6.62 per cent. on the share capital of all the companies now in the trust, including the Bay State Company, which was not in considerable operation until after July 1, 1890. If the Bay State Company be excluded, it makes about 7.84 per cent. on all the stocks involved. From another point of view, this item amounts to a little more than 69.2 per cent. of the net earnings, or 82.5 per cent. of the total dividends paid in 1887† by all the companies concerned.

The trust may fairly be said to have been completed with the listing of the first portion of Boston United Gas Bonds on the New York Stock Exchange, July 31, 1889. The par value of the stocks of the combined companies

* The commissions were on disbursements irrespective of the source from which funds were obtained. This item, therefore, includes a commission of \$9,142.50 on the stock of the Dorchester Company. The stocks of this company were deposited as collateral for the purchase money for them at \$125 per share. The equity in them, as already indicated, belongs to the Bay State Gas Company of Delaware.

† The accounts of all Massachusetts gas companies are, by law, closed on June 30 of each year. All references are to fiscal years, ending on June 30 of the year named, unless calendar years are specifically mentioned.

was \$4,040,000, with minority shares, to the extent of \$52,000, in all remaining outside the trust. The companies had at that time quick assets estimated at \$1,000,000, with no indebtedness except the obligation for \$4,500,000 of the Bay State Company and a floating debt of about \$50,000 on the South Boston Company.

As a basis for future discussion, it seems desirable, even at the risk of repetition, to digress somewhat, in order to consider more fully the probable cost of the works of the Bay State Company of Massachusetts. I make no pretensions to any exact knowledge on this point. The estimate of \$750,000 (apart from patent rights, carried on the books at \$250,000*) was avowedly put forth as an estimate only, based, however, on all available evidence. Certainly, no other point was more seriously considered in the investigation of 1893 than this one. The opponents of the company put two expert witnesses on the stand, who agreed substantially on a figure somewhat less than that given above. The president and chief counsel of the Bay State Company, who were at the same time also president and chief counsel of the Construction Company that built the works, wished the impression to prevail that the property cost the Construction Company from \$2,000,000 to \$3,000,000. But they refused absolutely to produce the books and accounts of the Construction Company, which were beyond the jurisdiction of the committee, being out-

* These patents seem to have come into the possession of the Bay State interests, partly as a bonus, or part consideration of the price of \$150 a share, paid by the Boston Gas Syndicate for the stock of the South Boston Company in 1887, and partly by sale or assignment to the Bay State Company by the Beacon Construction Company, July 25, 1885, for \$250,000 of certain patents procured from the Gas-works Construction Company. The patents appear later to have been held in the name of the Syndicate, the Bay State Company of Boston, or the Bay State Company of Delaware, as suited the convenience of the interested parties. Of this asset, Mayor Matthews said, after examining all the books and accounts of the company, "There is not an entry on the books of the Bay State Gas Company of Massachusetts to show that they ever paid a dollar for patents"; and, again, "There are patents in their assets, but there is nothing in their books to show that they ever paid a dollar for them." *Investigation of 1893*, p. 460.

side the State. These would have been conclusive evidence on the point, and of course would have been produced if those in charge of them had deemed it in their interest to produce them. The Bay State interest not only refused to produce this conclusive evidence in their hands, but also declined to call any expert witnesses, although they had such a witness at the investigation, to be used in case of an emergency. When the president and chief owner of both the Gas Company and the Construction Company was on the witness-stand, he insisted that his memory was a complete blank as far as the cost of the works was concerned. While, therefore, it has never been demonstrated that the Bay State works did not cost more than \$750,000, it is indisputable that those pretending that they cost something like \$3,000,000 preferred that the only evidence submitted to the committee should go to show that they cost less than three-quarters of a million dollars rather than to have the exact cost known.

These facts, under all the circumstances, and especially in view of the well-known leniency of the American public towards over-capitalization in moderate quantities, establish a strong presumption against a cost greatly in excess of the estimate already given. To these considerations should be added, for what they are worth, the figures from the various sworn returns made by the company to the State. It should not escape notice, also, that the pretence that the works cost between \$2,000,000 and \$3,000,000 was never put forth by the interested parties cognizant of all the facts in the case as a specific statement of truth, but as an ambiguous suggestion or insinuation. For example, when the attorney for the company in his argument in 1893 came to discuss the evidence on this point, he confined himself wholly to making an attack upon the character of the witnesses as experts and to impugning, in general, the motives of the prosecution. At this point he also came dangerously near to an admission that the claim

of the opposition was correct when he said,* "It is conceded, and the evidence before you shows, that the gas plant did not cost the contractors who built it \$4,950,000 *in cash*."† It is claimed upon the one side that it cost less than \$1,000,000; and it is claimed by us that upon the evidence, if it is material to be considered at all, it cost between two millions and a half and three millions of dollars *in stocks and bonds*."† In another place he says, "The worst view that can be taken against the company shows that they [the works] must be taken to have cost, without estimating the patents, over one million dollars." Some light is also thrown on the estimate of \$3,000,000 by the evasive testimony of Mr. Samuel Little, one of the trustees of the Syndicate. On the witness-stand, he declared the plant of the Bay State Company worth three million dollars. He was then asked the following question: "When you say it was worth three million dollars, you mean, if you could have the gas plant to work with the franchises and everything connected with it, that you could earn an income on three million dollars?" To this he answered, "Yes, sir." Reference should be made at this point to the petition to the New York Stock Exchange to list the first series of trust certificate bonds, which is interesting also, as showing us on what vague and indefinite statements the public is expected to invest in securities. This document, after describing the stocks on which the bonds are based and stating with substantial accuracy how much had been paid for them, about eight and one-half million dollars, adds: "The Bay State Company of Massachusetts has built the finest water gas works in the country, *which have been valued at \$3,000,000. The cash cost of the property underlying these \$7,000,000 of bonds is therefore considerably over \$10,000,000, and the properties are worth an earning capacity very much beyond their cost.*" As a matter of fact, the property of this company

* *Investigation of 1893*, pp. 511, 524. † The Italics are not in the original.

was assessed May 1, 1889, at \$501,300; and the only other valuation put upon it up to that time was by its owners for advertising purposes. It is true that four and one-half years later, after considerable additions had been made to the plant, when the legislature wiped out the obligation for \$4,500,000, the value of the works was judicially appraised at \$2,000,000. The present writer has no data for estimating the value of the additions referred to. The character of the commissioners of the court which fixed this valuation was entirely above reproach or suspicion. The commissioners were instructed not to include any value for the franchise; yet, so far as I can find out, they had to place a value upon these works without having access to the books and accounts of the Construction Company that built them. At that time the companies were actually combined, and the act under which this valuation was made was conclusive evidence that it was not the intention of the legislature to interfere further with the combination to the injury of the stockholders. But every one knows that the property, so managed, was worth very much more than the same property would have been with each company acting independently.* Furthermore, the commissioners were appointed to determine "the actual market value of said company, . . . not including therein any value for its franchises," and not the original cost of the property to the Construction Company. Is it not possible, therefore, that the valuation of \$2,000,000 placed upon the property October 30, 1893, was much higher than the same commissioners would have placed upon exactly the same tangible property if the earning power of the company had been much less

* Those in control of the combination estimated that operating the companies in harmony would save \$200,000 in the expense per annum. This estimate is not based on the supposition that the companies, if not combined, would be engaged in actual competition, but rather that they would be operated separately with a division of territory, as was the case before the combination. *Investigation of 1893, Appendix, p. lxxii.*

than it was because of actual or prospective competition with the other companies?*

Let us return from this digression. In the light of all the evidence we must conclude that those in control of the combined companies had at that time invested in the enterprise (at what to many people, it is true, seemed exorbitant prices) somewhere between nine and ten million dollars when, upon such a property they planned an issue of \$17,000,000 of foreign, or extra-state, capitalization. They were well aware that the three active companies occupying the whole field now held by the combination paid in dividends for the three years 1886-1888 a

* The tax assessors in Boston are generally supposed to live reasonably up to the law requiring them to assess all property at its fair market value. If the judicial valuation of \$2,000,000 on the property of the Bay State works was not excessive, it seems strange, especially after the hostility against the company created by the investigation, that the company should have succeeded in keeping its tax assessment so low as it did for so many years afterwards. Remembering that until November, 1893, the Bay State Company had \$500,000 share capital and the \$4,500,000 obligation, and after that date had \$2,000,000 of share capital and no debts, and that during the whole period under consideration the Boston Company had \$2,500,000 in share capital and no debts, let us make a comparison of the value of the property of the two companies for purposes of taxation. The figures will be doubly interesting, when we come to discuss the earnings of the two companies, if we add the dividends and interest to this table. The assessments are as of May 1, each year; the dividends and interest for the fiscal year ending on June 30, in each case. The figures are as follows:—

Year.	Valuation Bay State Co.	Valuation Boston Co.	Dividends and interest Bay State Co.	Dividends Boston Co.
1886	\$76,000	\$4,124,900		\$250,000
1887	202,000	4,269,100		250,000
1888	202,000	4,269,100		250,000
1889	501,300	4,269,100		267,000
1890	526,300	4,351,000	\$100,000.00 ^a	250,000
1891	526,300	4,355,800	500,000.00 ^a	187,500
1892	631,500	4,457,200	450,000.00 ^a	200,000
1893	661,500	4,516,900	437,500.00 ^a	230,000
1894	681,500	4,543,400	381,232.87 ^b	250,000
1895	821,500	4,548,600	170,000.00	237,500
1896	1,022,500	4,556,800	200,000.00	225,000

* The figures are taken from the annual reports of the Gas Commission. They differ slightly from those given in the *Report of the Investigation of 1893*, pp. 47 and 54. The probability is that those given above are correct. Cf. note, p. 41.

^b In this case I have not the data at hand to distribute the dividend throughout the year. Therefore, taking the total paid on the stock for the year, I assume that the dividend was uniform and that the obligation for \$4,500,000 drew interest at the same rate for the exact portion of the year it remained outstanding.

total of but \$947,000, or an average of \$315,666 per year; while to pay the interest on the trust certificate and income bonds at the agreed rates and 5 per cent. on the stock of the Delaware Company would require about three times this amount, or \$890,000 per year.

No statute forbade the raising of the price of gas to the public, or the distributing of more than 10 per cent. dividends regularly on the stocks of the Boston gas companies. But those who formed the combination did so with the full knowledge that a tradition stronger than any statute fixed 10 per cent. as a general maximum dividend, and that, having gained admission to Boston solely on the strength of the promise to give the public cheaper gas, it would be impossible to raise materially the price of gas in Boston at a time when gas prices everywhere else were rapidly declining. It was perfectly plain to everybody concerned that any attempt to raise the price would cause appeals to the legislature and the Gas Commission for investigation, regulation, and lowering of the price of gas.

Therefore, if those who brought about the "harmonious relations" of these companies were to reap anything more than large personal salaries* and counsel fees as a result of their years of effort, two things were necessary: first, a great increase of net earnings from the use of water gas and economy of administration; and, second, a turning of all the surplus earnings of all the companies into the treasury of the Bay State Company of Massachusetts, to go to the treasury of the Bay State of Delaware in the guise of interest on the \$4,500,000 obligation, and then to be transformed once more into the form of interest and dividends on the foreign capitalization. It now becomes

* The annual salaries and directors' allowances of the four combined companies were in 1887 but \$18,300. After the consolidation they rose to \$60,930. I have not the data at hand to apportion this among the different officers; but the salary of the president, who was of course the chief owner, was \$25,000. It was said by opposing counsel, and not denied, that the brother of the president received also \$25,000 as treasurer of all the companies; but this seems improbable.

plain, if we take into view the statutes and also the traditions of Massachusetts, why this multiplicity of companies had been necessary, and also what the exact function to be performed by the obligation for \$4,500,000 was. If the net profits of all the companies did not exceed 10 per cent. on the share capital, allowing for the dividends on the minority shares, there would be but \$398,700 to pay interest on the Boston United Gas Bonds, leaving an annual deficit on this account alone of \$101,300, with nothing whatever for the stock and bonds of the Delaware Company. The problem was, therefore, virtually to triple the earnings from this gas field, and to turn all the surplus into the Bay State treasury.

Even before the technical completion of the trust, the diversion of surplus began. The Boston Gas Syndicate declared an extra cash dividend of \$150,000, or 25 per cent., on the stock of the Roxbury Company on February 19, 1889, and thus got rid of the accumulated cash of that company.

When the companies had been brought into harmony, they elected substantially identical boards of directors, and moved the business all into one set of offices, as soon as practicable, in view of unexpired leases and contracts. The next step was to sell water gas patents to the subject companies. On this account the Bay State interests took from the treasury of the Boston Company \$150,000, from that of the Roxbury Company \$50,000, and from that of the South Boston Company \$25,000. The whole history of the Bay State Company shows that when its directors sold to themselves, as directors of the other companies, these licenses, or patent rights, they had no intention of allowing these companies to make any use of the rights, but fully intended to manufacture gas in the Bay State works, and sell it to the other companies as soon as the Bay State plant was capable of supplying the demands of the field. It will be recalled in this connection that the

Bay State Company sold no gas to consumers until about July 1, 1891, and that, having in all less than sixteen miles of street mains, its sales to consumers since have necessarily been insignificant. As a matter of fact, the Roxbury company ceased to manufacture any gas whatever before it bought the rights, and its plant remains shut down to this day. For the vote of the directors authorizing the purchase of the rights was passed on April 24, 1890; while a committee of the directors was appointed June 20, 1889, to consider the advisability of closing the works and buying gas of "some other company." Upon the recommendation of this committee, such purchase of gas was authorized July 12, 1889, or nearly a year before the purchase of the patents. The closing down of the works was a gradual process; and it was not until about July 1, 1892, that the works of this and the Dorchester Company were completely and permanently closed down.* The Boston Company made no attempt to manufacture any water gas until April, 1893, when the increasing demands of the field had outrun the capacity of the existing plants. The attempted justification of this sale of patents by the Bay State party to those under its control appears in large measure untenable. The claim put forth was, first, that the corporations had to be kept legally separate, and that each one had at all times to be prepared, in case of necessity, to act independently; and, in the next place, that the companies could not distribute water gas made by the Bay State Company without these patents. This last point has never been adjudicated; but, so far as the present writer has been able to ascertain, the patents are all for some manufacturing process, and it is difficult to see why any license should be necessary to distribute gas legally made by these patent processes and once sold.

*The South Boston Company continued to manufacture coal gas longer than any other of the captive companies. It has made no gas of any kind since the middle of 1895.

The inter-company sales of gas furnish one of the chief means of accomplishing the main object of the Bay State Company, and, therefore, demand our careful attention. It should be borne in mind that, although the Bay State works were tested as early as December, 1887, and, although the contract for constructing them was accepted as completed in March, 1889, the company had no right to distribute the only gas it could manufacture until after the act of 1888. In fact, the act of 1888 merely authorized the Gas Commission, under certain conditions, to license the distribution of gas containing more than 10 per cent. of carbonic oxide, and the Bay State Company took out no license under the act. When in the spring of 1890 the legislature formally repealed the 10 per cent. limit, and thus for the first time opened the way for the unrestricted sale of water gas, the Bay State Company was still a financial, and not a manufacturing company. At this time, moreover, it had no distributing system whatever. It could not, therefore, before this time have done any gas business, even in the absence of legal prohibitions, until it had command of the distributing systems of the other companies. The manufacturing operations of the company may be said, practically, to have begun after the act of 1890.* This is about a year after the completion of the trust, and more than a year after the work of the contractor was accepted as complete. For, although the specifications called for a manufacturing capacity of 4,000,000 cubic feet of gas per day, or about 1,250 to 1,460 million feet per year, the company, with full control of the other

* It is true that before the act of 1890 the Bay State Company had sold in all about 161,000,000 feet of gas to the other companies, which mixed coal gas with this water gas and distributed it to their customers. It is understood that this mixture contained regularly more than 10 per cent. of carbonic oxide. But the companies became liable to a penalty under this prohibition only, if their gas contained more than the legal limit of carbonic oxide "on three successive examinations." By some toleration on the part of the State administration it was easy for the companies to find out when inspections would be made, and thus continue these sales and still avoid the penalty by being within the limit at one examination out of three.

companies, had sold in all, before July 1, 1890, as stated above, but about 161,000,000 feet. Until that date the energy of the Bay State Company had been expended in perfecting arrangements with the other companies and in trying to get favorable legislation.

After the unacceptable act of 1888, authorizing the company to increase its capital stock, it turned its chief activity to an attempt to get from the legislature the right to consolidate legally, by lease or ownership, all the companies in and about Boston. In the session of 1890 it finally forced through the legislature a bill authorizing all the companies doing business in any town or city in the State to consolidate at the will of the stockholders. This bill virtually left the terms of consolidation and the amount of capitalization at the discretion of the stockholders. Fortunately for the good name of the State, Governor Brackett vetoed this bill; and the company was unable to overcome the veto in the legislature.

After more than six years of remarkable and fruitless appeals to the legislature for special legislation favorable to the company, and of legal and financial manipulation, about July 1, 1890, the Bay State Company found itself in possession of a magnificent water gas plant of large capacity, and in complete control of four other companies, with perhaps, on the whole, the most valuable field for the sale of gas in the world. The company determined, without for a moment ceasing its appeals to the legislature, to make the most of such legal rights as it already possessed. It is easy to see that, if the Bay State Company were allowed to sell gas to the companies controlled by it, at its own prices, there could be no limit to its ability to turn all the profits of all the companies into the desired channel; namely, into the treasury of the Bay State Company. The directors of the company assumed that they had such right; and, when it became known that they were acting on this

assumption, the chief counsel of the company said that before taking such action they procured the opinions of eminent special counsel,* whom he named, on this and all other important steps taken by their company. It will be recalled that the Gas Commission, by the act creating it in 1885, was given authority, after petition and public hearing, to fix absolutely the price of gas to consumers. But the commission took the view that this clause did not apply to sales of gas by one company to another, and that the powers of the commission gave it no authority or jurisdiction whatever over such sales. There seemed to be no other statute affecting these sales. Even if the commission had assumed jurisdiction over this matter, there could be no question that it was deprived of any initiative in the case, as it could not act directly without a petition. Although several petitions looking in this direction had been presented to the commission, no one of them had ever been pressed to a decision, all being either thrown out because of some defect or dropped at the request of the petitioners, after some sort of compromise or understanding with the company concerned.

At this time the Bay State works were declared to be the most perfect in the world. The general public understood that the expense of manufacturing water gas was much less than that of coal gas, but had no means of determining the exact degree of difference. The public also knew that the inter-company sales† of gas were going on, and was familiar with the reports of the Gas Commission

* See *Investigation of 1893*, pp. 229, 325, where this language occurs: "Such lawyers as the late General Butler, ex-Governor Gaston, Judge Hoar, Richard Olney, George A. Bruce, Robert M. Morse, have tried in vain to find some defect, but have universally failed of success."

† The sales of gas by one company to another began before the formation of the trust by the sale to the Roxbury Company by the Boston Company of 1,769,000 feet in the year 1887. The fact that the Bay State Company was already negotiating for a lease of this company, and had at the time a bill pending in the legislature to authorize such a lease, may have prevented this company from making the extensions of its plant necessary to meet the demands of the field.

stating the amounts of such gas sold; but the prices charged one company by another were not made known by the commission. The jealousy and fear of the other gas companies towards the Bay State Company at the beginning of its career did not abate as the years went on, but rather increased. The constant appeals of the Bay State Company to the legislature tended to strengthen rather than to allay this feeling. The result was a constantly growing legislative and popular hostility towards the Bay State interests. This finally culminated in a joint resolution of the two Houses of the legislature, passed February 20, 1892, ordering the Gas Commission to report within thirty days to the legislature upon the relations of the Boston Company to the other companies.

The specific points covered by the order were as to whether the prices charged by the Boston Company had been raised within six months; as to what that company could manufacture and distribute gas for, and pay 8 per cent. on its capital; as to what extent the Boston Company was paying excessive rent for street mains; and as to what extent it was paying one dollar per thousand feet for gas which it could manufacture itself at less cost; and, finally, as to whether or not the Bay State Company was diverting the surplus earnings of the Boston Company into the treasury of the Bay State Company of Delaware. It was through this report, presented March 25, 1892,* that the facts in regard to the relations of the companies first reached the general public. Further investigation covering all the companies concerned was inevitable from the day this report was made public. The great investigation of 1893 was the necessary and speedy sequence. From these two reports all the important relations of these companies can be worked out. The conditions revealed by the report of 1893, however in accord with the statutes they may

* *Senate Document 102 for 1892.* The report is also to be found in full as an appendix to the *Eighth Annual Report of the Board of Gas and Electric Light Commissioners, 1893.*

have been, were clearly such as the legislature, for at least two decades, had been trying to make impossible. It must have been plain to any student of the development of political sentiment or of corporate enterprises, upon reading that report, that no American public would knowingly tolerate and permit such relations to continue.

At this time the total annual consumption of gas for all purposes in the territory occupied by the Bay State interests was about 1,400 million cubic feet. The report showed that in the twenty months from July 1, 1890, to March 1, 1892, the Bay State Company sold to the Boston Company* 1,264.3 million feet of gas at one dollar per thousand feet. For the last half of the calendar year 1891 it gave a discount of \$70,000 in a lump sum; and, later, some slight but irregular discounts were allowed, bringing the total received from the Boston Company for the whole period for gas down to \$1,194,339,† and the average price down to a little less than 94.5 cents per thousand feet. No explanation whatever of these discounts is to be found in the records of the companies. No system of discounts was followed at any time. The \$70,000 is simply subtracted from the total due, under the designation "discount." It is probable that the deduction was made in order to prevent the Bay State Company from earning more than 10 per cent. on its capital stock for that half-year, or to enable the Boston Company to pay its accustomed 10 per cent. dividend.‡

* These inter-company sales of gas were in some cases apparently indirect; i.e., the Bay State Company sold to the Boston Company, and the Boston Company sold to the Roxbury and Dorchester companies. *Eighth Annual Report of the Gas Commission*, p. 7.

† These figures are from the special report of March, 1892. The records of the Bay State Company show that on June 30, 1892, some three months after this report was made, a further discount of \$41,000 was granted to the Boston Company; and a similar discount of \$4,000 was made to the Dorchester Company at the same time. These facts affect slightly the figures given in the text.

‡ After examining all the books of these companies, the counsel opposed to the Bay State Company had this to say of the sales: "If you go and look at

Up to July 1, 1892, the Roxbury and Dorchester companies had bought 639.5 million feet of gas, the Roxbury paying one dollar net, while the Dorchester paid but eighty-five cents (with some slight discounts). The only explanation of this difference suggested, so far as the writer has been able to discover, is that the owners of the stocks of the Dorchester Company had borrowed on it at so high a rate that the earnings of the stock would not have paid the interest on the loan, had the company paid as high a price for gas as the other companies. But these companies are so small as to offer rather a speculative than a practical interest.

The treasury of the Boston Company, however, was still too fat after the sales of gas to it; and other devices for distributing the gains were sought. The gas was sold to other companies in the holders of the Bay State Company, which was so fortunate as to own the only pipes that could carry this gas to the distributing systems of the subject companies. Probably for the reasons already suggested, no charge for the rent of mains was made to the minor companies. But on July 1, 1889, the Boston Company began to use about three miles of the Bay State's connecting mains, and at the end of October of the same year about three miles more, making in all about six miles of pipe, the first cost of which was somewhat less than \$150,000. For the use of these mains the Boston Company paid the Bay State Company \$100,000 for each of the calendar years 1889 and 1890. During these two years the Boston Company bought just 391,230,000 feet of gas. The rent on the mains was, therefore, about 51.1 cents per thousand feet. This brought the price of gas

their books, you will find that the price charged for gas in 1891 and 1892 to these other companies by the Bay State Company is a mere matter of book-keeping. There is not a vote on their records saying what the price of gas shall be to the different companies. At the end of the year the book-keeper, Mr. F. P. Addicks, simply makes a calculation of what the necessity of each company is, and then makes the charges for gas accordingly." *Investigation of 1893*, p. 576.

up to \$1.511 when it reached the mains of the Boston Company.

It would have been disastrous for the Boston Company to buy all the gas it distributed at that price; for the net average price received by it from consumers was for the fiscal year 1890 but \$1.23, and for 1891 but \$1.21. At this time the company, acting independently, could make coal gas for about 53 cents per thousand. By adapting its works to water gas processes for which it owned the rights, it could manufacture very much below this figure. In fact, the Bay State Company, according to calculations made from the sworn returns of the company, was manufacturing the gas for which it was charging the Boston Company (apart from the exorbitant rent for street mains) \$1 per thousand, for about 40 cents per thousand for the fiscal year 1891, and at about 33 to 35 cents per thousand for the fiscal year 1892. Further, any statement of what it cost the Boston Company during this period to make coal gas would be meaningless without a previous explanation of its minor business dealings with the Bay State Company. For "in the spring or early summer of 1890" the Boston Company began to buy virtually all of its coal of the Bay State Company at what was officially declared to be an advance over the market price. Within about a year the net gain from this source to the Bay State Company amounted to about \$33,700. During the same time the Bay State Company made a clear gain of \$8,000 by buying tar from the Boston Company for less than the market price. To this should be added still an extra gain estimated at \$16,000 from the sale of naphtha to the Boston Company at excessive prices. Those in control of the combined companies declared that the companies were strictly private corporations; and, therefore, no law forbade them making such contracts among themselves as they wished. They attempted some justification, too, by general theorizing as to the advantages of dealing

in large quantities. At all events, it is apparent from the above facts that there was no lack of means to direct any possible surplus from the treasury of the Boston Company into that of the Bay State Company. But there was some danger that this surplus might prove inadequate to the demands made upon it. Although those in control were too wise to attempt a general increase of the selling price of gas, they found a way to add materially to the income of the Boston Company without antagonizing the popular demand for cheaper gas. In the autumn of 1887 the Boston Company, then foreseeing a war of rates with the Bay State Company, whose works were nearing completion, had authorized three year contracts, at \$1 a thousand feet, with all consumers whose bills had previously exceeded \$2,000 annually, and a discount of 10 cents per thousand feet from the regular price of \$1.30 per thousand to those whose bills had heretofore been between \$1,000 and \$2,000 per year. April 10, 1889, the directors voted "that the rebate of 10 cents per thousand feet allowed to large consumers be continued *for the present*." No further corporate action in regard to these prices was ever taken by the company; but consumers of the first class were charged the regular price after January 1, 1892, and those of the second class after January 1, 1891. While these discounts were in force, they amounted together to about \$45,000 a year; and their cessation probably added nearly as much as that to the treasury of the Boston Company, since the increase of price to customers of this class would not be likely to affect largely the amount of consumption. This addition to income was made by a policy that tended rather to increase than to destroy popular favor. For, although it was a clear gain to the company, and raised the average price of gas from \$1.21 per thousand in 1891 to \$1.28 per thousand in 1892, it was justified by the company as a first step towards the "American" policy of equal treatment to all.

According to the special report made in 1892 by the Gas Commission, it had cost the Boston Company 84 cents per thousand in the holder for the coal gas manufactured by it, whereas the same gas could have been made for 53 cents per thousand but for the "harmonious" relations of the companies. The cost of distribution was placed at 24 cents per thousand, that of annual renewals and extensions at 8 cents; and at the then rate of consumption the commission declared 15 cents per thousand sufficient to pay 8 per cent. dividend on the capital actually invested. After a thorough examination of all the facts the commission concluded that the Boston Company, under the conditions of that time, acting independently, could sell coal gas to consumers at one dollar per thousand on an 8 per cent. dividend basis, whereas the combination had for several years been selling a much cheaper gas in this territory at from about \$1.21 to about \$1.28 per thousand net.

In addition to the diversion of surplus by means of the specific sales and contracts already referred to, the annual returns of the different companies in the combination show clearly that the general expense of managing the whole business was almost entirely borne by the treasury of the Boston Company.

The following table will illustrate this point, and at the same time give some idea of the general effects of the relations of the companies:—

	<i>Fiscal year.</i> 1891.	<i>Fiscal year.</i> 1892.
1. <i>Gas made in feet.</i>		
Boston Company	861,098,100	567,771,100
Bay State Company	625,929,000	685,480,000
2. <i>Net cost of manufacturing the same per thousand feet.</i>		
Boston Company	60 cents	54 cents
Bay State Company	40 cents	33 cents
3. <i>All other expenses than manufacturing, cost per thousand feet.</i>		
Boston Company	23 cents	26 cents
Bay State Company	3 cents	2.7 cents

4. Total expenses, excepting manufacturing cost.	Fiscal year. 1891.	Fiscal year. 1892.
Boston Company	\$350,595.95 *	\$345,139.42
Bay State Company	25,474.00	17,977.41
5. Total paid in dividends.		
Boston Company	\$187,500.00	\$250,000.00
Bay State Company	473,494.78 †	477,000.00 †

It will be noticed that the necessities of the case required the cutting down of the dividends of the Boston Company to a figure unknown before for more than a decade; *i.e.*, to 7.5 per cent. To pay so large a sum on the obligation and stock of the Bay State Company also caused the dividends on the stock of the minor companies to be reduced in some cases. The Roxbury Company, being in excellent condition when it was bought with the large cash surplus previously referred to, and with virtually no minority stockholders, continued to pay regularly 10 per cent. dividend, in addition to the extra dividend of 25 per cent. in 1889 and a 2½ extra dividend in 1890. On the other hand, the South Boston Company, with its \$43,600 of minority stock, dropped from a dividend of 6 per cent. in 1886 and 7 per cent. in 1887 to 5 per cent. in 1891 and 4 per cent. in 1892. The Dorchester Company had for a number of years before the change in ownership paid 6 per cent. annually. The sale of the company within a few weeks of the close of the fiscal year 1889 probably accounts for

*This does not include rent of street mains. Since the company paid \$100,000 for the use of street mains for the calendar year 1890, it would seem that a perfectly fair comparison would require the addition of \$50,000 for rent of street mains from July 1, 1890, to January 1, 1891. From the item is naturally excluded the amounts paid for gas and in dividends.

† As the obligation for \$4,500,000 received nine-tenths of the net earnings of the company, this item includes the interest on that obligation as well as the dividends on the stock. There is a slight confusion as to the amount of the item for 1891. In the *Report of the Investigation of 1893*, at p. 47, the figures are \$470,000; at p. 54, those given above; while the Special Report of 1892 states that for the fiscal year 1891 the obligation paid 10 per cent. If this be true, the company must have paid that year interest and dividends to the extent of \$500,000 instead of \$473,494.78, as stated above. Cf. note, p. 28; also *Eighth Annual Report of Gas Commission*, p. 253.

the 9 per cent. dividend of that year. Reasons have already been given why it may have appeared desirable to maintain a relatively high rate of dividend on this small company. As a matter of fact, this company, after a 6 per cent. dividend in 1890, continued to pay 8 per cent. annually until 1896, when it jumped its dividend entirely. The cause of the apparently sudden turn in the fortunes of this company is closely related to the later history of the whole Bay State interests, which must be reserved for consideration in a future article.

Let us return now to the affairs of the Bay State Company. As a result of the manipulations and operations above set forth, it declared its first dividend of 2 per cent. on January 1, 1890, as of December 20, 1889. This was before it had fairly entered upon industrial operations. For the calendar year 1890 the company paid, in all, 7 per cent. on both stock and obligation for \$4,500,000, or \$350,000, and the next year for like purposes 8 per cent., or \$400,000, and on March 14, 1892, a further 2.5 per cent., or \$125,000. This makes in all \$875,000 profits for this company from the beginning to March 14, 1892, or within about twenty-one months after it began to make gas in considerable quantities. The high-water mark was reached for the fiscal year ending June 30, 1891, when the Bay State Company distributed on its capitalization (in dividends and interest) \$500,000, or 100 per cent. per annum on its share capital. The next year, under the influence of public opinion and legislative threats and investigation, the rate fell from 10 to 9 per cent. During this most flourishing period of twenty-one months the total sales of gas to the Boston Company were 1,348.6 million feet. Although there is some confusion in the data relating to sales to the minor companies, it appears that such sales amounted to but 42.1 * million feet to March 1, 1892.

* The figures for the Boston Company are exact; but those for the minor companies, taken from the annual reports, relate to fiscal years. The annual

On this basis the profits of \$875,000 were made on total sales of 1,390.7 million feet of gas. This gives a net profit of 62.91 cents per thousand on gas, which, according to the company's own sworn returns, cost but from 33 to 40 cents to manufacture, and which was sold in the company's holders. If this statement seems not to tally with the general selling price and cost of manufacturing previously given, it is only necessary to recall the various sources of profit possessed by this company apart from the sales of gas.

Such is an outline of the steps by which the managers of the Bay State Company succeeded in keeping the foreign stocks and bonds at high prices by the payment of a high rate of profit on the total capitalization of \$5,000,000 of the Bay State Company of Massachusetts. The obligation for \$4,500,000 seemed fully to have accomplished its purpose. With existing legislation, traditional gas prices, a constantly increasing demand for gas, and a constantly decreasing cost of manufacture, it looked in the early months of 1892 as if these dazzling profits might continue indefinitely. The marvellous success of the enterprise up to that time could not be questioned. In fact, the success was too great to be permanent. All that was needed to threaten, check, and destroy such success was that the facts should become known. For even the promoters of the enterprise could not have hoped that the legislature would refrain from attempts to put a stop to such conditions. Nor could they have rationally hoped, after the publication of the facts and details of their profits, that the companies not

reports are not clear in every case as to which company sells to the minor companies. The following statements, however, from the *Eighth Annual Report*, p. 7, show that the error is insignificant: "For most of the year ending June 30, 1892, these companies [the Dorchester and Roxbury] distributed a gas which they bought of the Boston Gas Light Company; but since March, 1892, they have bought directly from the Bay State Gas Company"; again, p. 252, "As the income of the Bay State of Massachusetts has been derived almost exclusively from its transactions with the Boston Company, it is fair to say that practically its entire profits are from the earnings of the latter."

in the trust would calmly sit by and see such profits go into the coffers of their great rival without an attempt to compete in so rich a field. The legal situation was such as to offer the greatest temptation to competing companies. For, as already indicated, many of the companies in the vicinity had by their charters the right to supply Boston proper with gas, provided the consent of the city be first secured.

It will be the object of a future article to trace the steps by which a knowledge of the facts delineated above became known to the public, and to describe the two lines of attack made upon the brilliant career of the Bay State Company as a result of this publicity.

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THE EDUCATIONAL ASPECTS OF SAVING.

IN the modern trend of thought towards social meliorism there lurks a danger of impractical transcendentalism. An abounding faith in the unfolding potentialities of the human kind—where adequate room is afforded—is always in danger of developing an ultra-rational program. The faith in humanity which may be relied upon to remove mountains of social ills is that which recognizes both its unfolding capacity and its limitations. This modern winged optimism has very considerably influenced economic thinking and writing, even exceeding a mere change of emphasis.

For example, it has become fashionable to ridicule the "economic man"; that is, the ideal man who is always amenable to economic forces. It has also become fashionable to treat the Ricardian theory of wages with a superior contempt, and to refer to it as an exploded doctrine, the "normal" or "subsistence minimum" wage being treated as a phantom of the imagination,—the ghost of an ingenious theory which was never embodied in reality. The Malthusian doctrine of population has come into such bad favor as almost to amount to a renaissance of Godwin and Condorcet Utopianism. Following in this general trend away from the ground occupied by the classical economists, Adam Smith's deification of the laws of competition has been succeeded by an equally blind hostility.

Admitting the extremes to which these old landmark doctrines were carried, and recognizing the harmfulness of such doctrinal ideality, it may be a question if the extreme reaction is not the most vicious fruit they have borne. It seems, at least to the writer, that the neglect of the essential truths of these old doctrines is calculated to sap the

strength both from theoretical and institutional economics. It tends to substitute for the science of economics a sort of Utopian meliorism. The advent of the melioristic spirit is opportune, and the present epoch offers it a very large world to conquer; but a successful meliorism needs most of all to be well ballasted with some of the principles which are now passing out of favor.

The idea of the antiquation or explosion of well-matured principles should not be allowed to pass unchallenged. The notion that great thinkers, like Smith, Malthus, and Ricardo, serve only their own day and generation, is both unscientific and unhistorical. Doctrines in economics are peculiarly ill fitted for revolutionary abandonment, and such a treatment of them would necessarily be attended by great disasters. Economic theories, like doctrines of law, are in a sense immortal. They are not abandoned, but modified and adapted to changing conditions. It may even be said that well-established doctrines are but seldom exploded. A capricious notion may be exploded before it has fairly taken root in the thought of men, but well-rooted doctrines are seldom destroyed by the dynamite process. It may also be said that the well-rooted doctrines seldom fail to be of service, both in the day of their birth and in succeeding generations, even though they may completely metamorphose their character.

There is certainly still a service for the more important doctrines of the classical economists. It may not be going too far to say that to neglect them is to neglect the foundations of social progress. Some of them are fundamentally essential to the strength of economic thought, to a proper shaping of the growth of the state through legislation, and to the development of the best schemes for the education of the individual citizen. The "economic man" does not stand for the whole of any individual man, but he represents a phase of the nature of every normal man. Other sentiments and motives than the economic control or

modify the actions of men. But to leave out of account the goad of unsatisfied economic wants, to leave out of account the motives of acquisitiveness, and to leave out of account the social and industrial services rendered by these forces is to neglect the most elementary phenomena of human life.

Competition never possessed the social and industrial potentialities claimed for it by Adam Smith. The formulation of his claims for competition, however, impressed the public consciousness with its essential truths and created conditions for its salutary application; and the industrial revolution can perhaps best be studied with the *Wealth of Nations* as a starting-point.

Similarly, to leave out of account the tendency of the stream of population to overflow its banks — for people to increase in number more rapidly than nature can respond to their physical needs — is to neglect a force with which almost all meliorative schemes must reckon. Directly correlated to the Malthusian law of population is Ricardo's theory of a minimum of subsistence wage. The force of an increasing population, according to it, always tends to glut the labor market and drive wages to that standard of living where labor may precariously subsist and hold its own; not so precariously as to cause a deterioration in numbers nor so securely as to allow any increase in its number. Another downward-impelling force, similar in its effects to that with which Ricardo's name is associated, is the introduction of labor-displacing machinery. The two forces are identical in their effect upon labor, in that they both intensify the competition for wage service,— the one by increasing the number of applicants for positions, and the other by diminishing the number of positions. The forcing-downward tendency has been arrested by the play of other forces, but it has never been resisted without a struggle. If the contest is to continue to be successful, it is all-important that the initial force be kept distinctly in

mind. We seem in no way of escaping from the following order of sequences: a tendency to early marriages and large families; a keener competition for wage service; a lower standard of living, suffering and misery. Nor are we likely for a long time to be rid of the same distresses resulting from the introduction of labor-saving machinery. Neither is this order by any means universally defeated. Hence it is all-important that meliorative schemes take the first cause—early and inconsiderate marriages—sternly into account. If this root cause can be avoided, the other evils will at least be mitigated. This is the great problem of education.

The surest way to stem the stream of social and industrial ills is to stimulate aspirations for a high degree of comfort,—for a high standard of living,—and to formulate a concrete, intelligible scheme for its attainment. A recognition of this need will suggest practical lines of educational work.

We speak of education preparing children for the battles of life. If they are really to be prepared for the battles of life, their education should both instruct them as to the character of life's battles and fortify them with definite schemes against their reverses. Here the "economic man" serves very well as a basis for mapping out educational programs. By a careful study of this manikin, the weak points in the real man may be definitely located, and an effective treatment may be devised.

Many of our meliorative schemes are likely to prove Utopian in the place where their exploiters have left them. The present meliorative movement might be described as a demand for larger opportunities for individual development, with proper developmental facilities. The two sides to the program are: more leisure time on the one hand, and inducements to healthful employment of that leisure on the other. The facilities which are expected to induce a healthful use of the greater leisure include such agencies

as free public libraries, free art collections, free public lectures, ample park and garden facilities, and, perhaps, free public concerts and operas.

These culture influences, to be provided either by the public economy or by private philanthropy for the use of the public, are expected to react upon the domestic economy. They are expected to create a hunger and thirst for culture, which will transform the home. Such schemes are Utopian in the place where they are left, because they offer wings—that is, imagination—where strong legs—that is, practical methods—are needed. The individualizing process at which education aims consists not in beholding the culture material out of which individual character may be wrought, but it consists in developing a capacity to appropriate and use that material by the individual. Here we locate the economic basis of culture.

In this day the individual discovers himself and realizes himself in the lines of expenditure. Productive processes are becoming more and more deindividualizing, and, therefore, non-cultural; social progress demands that the expenditure of income be as individualizing as possible. The last-century artisan unfolded his character in the quality and the quantity of his work. The nineteenth and the twentieth century artisan must unfold his character in the way in which he spends his money. The person becomes individual and economically strong as he comes to appropriate culture for his private use. As culture creates a strong demand for the things which call out the individual from the mass, it tends to defeat the Malthusian law of population and to set at naught the Ricardian law of wages. If picture galleries are to raise the standard of living, they must influence the individual expenditure of the artisan. It need not be in creating a demand for pictures in the home, but it must create a sense of the æsthetic which will be reflected in the architecture and furnishings of the home, or in the dress of the family, or in the flowers in the

garden. The sense of the beautiful may find expression in large or small groups of expenditure, but the success of the culture institutions must be tested by such expenditures. The present thesis is that the love of the beautiful must not find its complete satisfaction in the facilities provided for the use of the public. Otherwise the object is not gained: the individual will less frequently, and with greater difficulty, emerge from the mass. It will be more difficult than ever for the economic individual to emerge.

Public or municipal ownership of cultural property is sometimes called a form of co-operation. The people agree to purchase and use pictures and books in common, or provide music and the drama in common, or provide educational facilities on the co-operative plan,—on the principle that they secure a better service in that way. It is an idea which is taking deep root, and promises a thrifty growth in the future. It must be noted, however, that, in so far as dependence for culture influences turns from the home to the city, the economic individual has been drained of his strength. The capacity of the city through such agencies to lift the people to a higher plane consists, not in satisfying desires, but in quickening desires which the individual himself must find means to satisfy. The sum total of human happiness may be increased for the time by municipal provision for the satisfaction of wants; but, if that is the end, it will result in weakening the power of the individual by neglecting the standard of home comforts. It can hardly be said that the priceless art treasures of Italy, which belong to the people, bring them to a higher plane of living. The highest art and the most wretched squalor are the closest neighbors.

In proportion as the city satisfies wants, may it be said to open the way for the baleful operation of the Malthusian law of population and for the operation of the Ricardian law of wages. Thus the city, in attempting to build up the culture of the community, may undermine

the power of the individual to realize himself, and thus defeat the chief end of culture. There is no quarrel here with municipal patronage of culture. It is simply sought to indicate a danger from such a policy if certain economic forces, long ago discovered and still operative, are ignored. Against this danger it is the province of education to provide, and this brings us to a more detailed discussion of the economic functions of education.

A capacity to appropriate the better things of life is the test of economic strength. This capacity is likewise a test of the adaptiveness of a people to a meliorative scheme. Schemes for elevating the masses may fail utterly of their purpose unless there has been a previous development of character which is capable of wisely using the opportunities made available. An eight-hour law, for instance, might prove the ruin of a people unless there had been an adequate growth in moral restraint.

Therefore, we turn to education as essential to any solution of industrial problems. Illiteracy is an insuperable impediment to industrial reform. It is the general discipline and self-restraint imposed by the school-room which makes the citizen amenable to the correction of public opinion and which makes the workingman frugal and industrious.

Passing from this general truth to a closer analysis of the things which education has to overcome, we find chief among these the desire to satisfy immediate wants. The impulse to satisfy the wants which have to do with the physical senses is universal. The persons who yield to these desires — the gluttons, the drunkards, the prostitutes, the classes whom we call degenerates — have simply gravitated in the direction of their primary sensual appetites. An uncurbed appetite for sugar and sweetmeats belongs to the same class of phenomena as an uncontrollable appetite for drink. Merely physical impulses are in control in both cases, the demands of the body keeping

the higher parts in abeyance. A rational discipline is essential to elevate the race out of this sensual state. An undisciplined and illiterate people is apt to be a licentious people. Education stands between the undeveloped child and such a fate. Education here may not mean a school training in the case of every individual, but some sort of kindred discipline is essential to a control of natural appetites; and in the extent of this control we have all the difference between a cultured and a savage people.

The general stages of educational discipline may be described as follows:—

First. Compulsory discipline without reason or explanation. The child first starts to school because it is sent, and it goes willingly because other children of the same age are going. The power of imitation is usually a sufficient impelling force. Children concentrate their minds and accomplish their tasks in spite of the universal inclination to run wild in the woods, because other children are doing the same thing; and this favorable environment is created by the suggestions of the teacher and parents. Extra diligence is induced by the hope of praise for work well done. There is no reason involved in any of the processes.

Second. In the second stage there is also no reason involved, but a new impulsive element has been evolved. At first there was no pleasure in the act of studying. It was a painful process, endured by force of example and for the reward of praise. After the discipline has continued sufficiently long, it ceases to be painful. In time the act of studying, of solving problems, of mastering the difficulties of penmanship, of learning to use the voice properly in reading and speaking or of learning new facts in science and history, become pleasures in themselves. The mind has developed a faculty for overcoming difficulties, and mental triumphs bring a joyous sense of exhilaration and a thrill of happiness. To the primary

impelling forces an attractive force of great intensity has been added.

Third. The third stage brings the pupil to a sense of general order and harmony which might be described as respectability. Education has made a good citizen because it has evolved a sensitiveness to order, because senses have been quickened which would be shocked by excessive or indecent indulgences of physical wants. At this point we note the union between the economic and the moral, or we find the economic serving as the handmaiden of the moral. The demand for order and harmony includes obedience to the accepted laws and canons of righteous living as prescribed by the best tone of the community.

In order to realize order, to experience harmonious living, certain economic auxiliaries must be realized. The sense of order which makes for respectability will despise the hovel, or tolerate it only until a more pleasing habitation can be realized. This sense of order which makes for respectability will abhor the ragged coat and the shoes run down at the heel. A person thoroughly imbued with the sense of order and harmony will chafe and be miserable in an unsightly garb. The sense of order which makes for respectability will never be satisfied with the pictures and ornaments which have been brought into the home until the highest reaches of art have been touched. Thus the sense of order, of harmony, as it grows in the individual, makes ever-heavier drafts upon the economic resources. The realization of order and harmony calls for greater industry and larger sacrifices of immediate sensual desires.

This sense of order has its positive and its negative side. On its negative side we observe the things which shock the sense of proper conduct, such as vulgar displays of temper or conduct which outrages the religious sense. On the positive side we note the ambition to acquire those things which cater both to physical comfort and to the sense of the beautiful. It is this side which puts the economic ac-

tivities into motion, which inspires to industry, thrift and economy.

The desire for greater comfort and objects of art is often abortive for want of a sufficient concreteness in educational methods. The desire for these things is felt, but the intellect has not grasped any clear and definitely formulated scheme for attaining them. Their attainment demands providence. Providence means a power of sacrificing a multitude of immediate wants, which are ever clamoring for all of one's income. Economic strength consists in the power to subdue these small wants, in order to realize more remote but greater satisfactions.

An ideal educational system will not only kindle a passion for order: it will formulate definite rules, and provide institutions expressly designed to facilitate the realization of order. Perhaps the most unfortunate and unhappy creature in the world is the man who has longings for order, but lacks the capacity to gratify his longings. The person who has implanted within him the love of the beautiful, but who has no power of appropriating beautiful things for himself, is a half-finished product of education. Such a man is pitifully weak and incomplete. The existence of many people of this type is proof of the incompleteness of our educational systems. These systems might be called brutally inadequate to human needs, in so far as they kindle proper desires without building the character for their satisfaction.

The two things essential to economic self-realization are making and saving. Lessons in making are more likely to be taught outside of school, but not so lessons in saving. A completed educational system will both inspire the pupil with a love of good things, and teach him how to obtain them through saving.

The savings-bank, when properly organized, is an educational rather than an economic institution. Although

it furnishes a safe place for the deposit of wages and small earnings and pays an interest to depositors, its chief design is to teach the art of saving. Since it represents a phase of education which is not amenable to compulsory methods, it must seek to reach a maximum of attractiveness. With this object in view the factors determining the success of a savings system are security of deposits, earning capacity of deposits, and locality of depositories.

The first requisite of success is perfect security of deposit. Insistence upon absolute security of deposits might be criticised as a hot-house method,—as forcing a growth which cannot endure the variations in the outside atmosphere. It might be said that the insecurity of temporal things is a fact which should be impressed upon the minds of every one; and it might be urged that implicit reliance upon an institution or upon a person tends to foster a spirit of dependence, and induces a helplessness to cope with the world. Against this it might be urged that it is the province of organized society to eliminate the elements of insecurity in so far as practicable. In lines of education the hot-house method can never be wholly discarded. Reliance upon the master and upon the educational institution are essential to the success of any educational scheme. In teaching lessons in saving, therefore, as great care should be exercised in providing a confidence-deserving savings institution as would be exercised in selecting a master with an education and equipment deserving of the confidence of the pupil. In view of the many grown people who are still children in the matter of spending their money, it is clear that they should receive every encouragement which a sense of perfect security will give.

As to the earning power of the deposits, the rule should be laid down that the deposits should be made to earn as large an interest sum as would be consistent with reasonable security. This point is not always insisted upon by

advocates of the savings-banks as a part of an educational scheme. It seems a great mistake. In proportion as the saving power is weak, should the pecuniary inducement to save be high. The very weak saver is not induced to save, in order to finally spend for a different class of goods. He does not classify his expenditures, but he has an ill-defined sense of few or many gross satisfactions. The greater amount of satisfactions, according to his present estimate of satisfactions, is the telling argument. He will reason that it is as well to spend your money as it comes in, and be sure of your enjoyments, as to practise self-denial for a period, and to have no greater satisfaction at the end than the sum of the enjoyments which he might have been having all the time. He might reason that it would even be better to spend as you go, because such a policy would save the pain involved in self-denial. There must be an appreciable addition to the sum of satisfactions in the hope of the weak saver, to induce him to sacrifice present wants. The greater this addition, the greater the success of the scheme. If the bank deposits could be made to earn for the depositor an interest rate of 10 per cent., it would be more than four times as effective an educator as a 3 per cent. rate. An extraordinary stimulant is required where the saving power is very weak.

Ideas current in America about legitimate investments of postal-savings deposits are liable partially to defeat the main object of the institution. Postal savings is itself a phase of state activity which impinges upon inherited prejudices as to the legitimate functions of the state. It could hardly find acceptance in America, except as an educational scheme. Great fear is entertained lest the government, in order to carry out the scheme, will have to do more or less of a banking, or money-lending, business. The ghost of *laissez faire* is greatly frightened at such a prospect. Hence there has sprung up in anticipation of the postal savings-bank an incipient doctrine as to legit-

imate and illegitimate investment of funds held in trust by the government. This incipient doctrine proscribes investments in personal or real estate securities, and prescribes government and state securities. The idea that a state savings system should deal only in state or other public securities will, if it prevails, keep the earnings of deposits below 3 per cent., while in America the rate should be 4 or 5 per cent. One could wish in the interest of social and industrial reform that so much of the old idea of the Physiocrats as to the legitimate sphere of state activity had not survived. A more hopeful doctrine might be borrowed from the practice of courts in interpreting statutes,—that the power of the courts to use whatever means may be necessary to make the law fully effective is assumed. The effectiveness of a reform measure should not be hampered by any doctrines as to the legitimate sphere of state activity. The adoption of a reform measure by the state should be the single issue; and, that settled, every provision should be made looking to its complete success. The first battle won, there should be no further hostages to *laissez faire*. This is the logical position, and it would be the best fighting position if the friends of the movement could only be made to see it.

Such a principle would dictate a policy as to investments having in view a large return to depositors. Following the approved policy of existing savings-banks in America, such loans would largely be on real estate security, which might average a gross interest of about 6 per cent. In the larger cities a pawn-shop feature might be added, which should yield about 10 per cent.*

* Since 1840 the state pawn-shop system of Madrid, known by the name of "*Mont-de-Piété*," which dates from 1702, has been joined to the savings-bank. Since then the two have been under state management as a single institution, entirely successful and self-supporting. Loans are made by the pawn department on deposit of jewels, diamonds, precious stones, linen articles of clothing, and government securities, at the remarkably low rate of 6 per cent. per annum. In other states and private pawn-shops the minimum interest rate is about 12 per cent. Notwithstanding this low rate the savings department

The location of the savings-bank is a most important consideration. Here the success must largely depend upon the breadth of view. A centralized system has a great advantage over a local system, a state over a municipal system. The test here is not how large a per cent. of the population become patrons of the bank, but how extensively the most improvident classes have been reached. Improvidence becomes, to an extent, localized in a section of the country or in a community within the city. A backward section of a country is almost inevitably an improvident section. The backwardness is due in large measure to a low saving power. Capitalistic undertakings are scarce because the ratio between earning power and living expenditures tends to an equality. The redemption of the section demands that the lack of individual providence be made good by collective savings, that collective sacrifices afford the opportunity for capitalistic undertakings, and that the tutelage in savings train the individuals to become capitalists, to give direction to the facilities made available. The state can best discover these weak localities and supply the machinery for their redemption. They will never discover themselves. Thus a local system, like the German, will leave the backward sections of the country unprovided for. Or a voluntary system, like the present one in America, may only find a high development in three or four states, and in those states only in a few large cities. The post-office seems an ideal institution in this regard for accomplishing the purpose of the savings-bank. It reaches every rural community; and the more rural or backward the community, perhaps,

is able to insure the depositors an interest rate of 4 per cent. per annum. A rate of 12 per cent. in America would prove a great boon to the deserving patrons of the pawn-shops, at the same time netting the bank about 10 per cent., and appreciably increasing the general interest-bearing power of the deposits. For fuller account of the Madrid system, see "Report on the System of Pawnbroking in Spain," by H. Drummond Wolff, in *Reports from her Majesty's Representatives Abroad on the Systems of Pawnbroking in Various Countries* (August, 1894).

the more intimately does it touch the life of its every individual. On the other hand, in localities where a discipline in saving is not so much needed, where there is no demand for postal savings (as where co-operative building associations are largely in use), the postal savings-bank may aid existing institutions by affording them a safe depository for their current funds without interfering with their general usefulness.

The same localizing tendency is found within the locality. Any city could be plotted with reference to the general degrees of the improvidence of the citizens. A scientific savings system within a city will extend its facilities not so much with reference to the amount of business as with reference to the amount of need of encouragement to save. It is more urgent that the savings collector should go from house to house explaining the advantages of saving accounts, and that well-appointed depositories should be located in communities where the people are strangers to the saving habit, than in communities where the people are well started in saving. In the latter class of communities the people will seek the savings-bank, in the former the savings-bank must seek the people. Here the advantage of a centralized philanthropic system is evident. As between the state government and the city government, it is reasonable to assume, and experience amply proves, that the city is more competent to minister to the needs of the different localities. The municipal savings-banks in both Germany and France (the latter in competition with the postal savings-bank) have beaten the best records of state savings systems in cultivating savings. Municipal systems for large cities seem to offer an excellent supplement to a state savings system organized in the spirit of an educational scheme. Objections to municipal savings-banks in America, however, may be valid until a more intelligent and vital municipal spirit has been aroused.

The above considerations are directed mainly to the education of adults in saving. The logical starting-place of savings-banks is the elementary schools. Savings-banks should above all be placed within the knowledge of children, and their methods and advantages should be explained to every child. This would be the surest way of bringing within reach the realization of the sense of order which culture creates. Savings-banks offer most attractive facilities for impressing youth with the value of providence. While the pupil is learning the advantages of sacrificing the small pleasures of the present for the greater pleasures of the future through his weekly investments in savings-bank credits, he is acquiring a new zest for the mastery of arithmetical sums and the rules of interest. In many ways it can be made to fit in and supplement the general curricula.

Providence is the faculty which there is most need to cultivate in the child. Education must instil into the thought of the child the character of property, the desirability of its lawful possession, and the means of acquiring it. Criminality largely flows from hazy conceptions of the character of property and proper methods of acquiring it. Education should enforce these things upon the minds of the young by the most simple and concrete methods. Children are like savages in their conception of property. Any one who has watched the Indians at an agency, spending the money which they draw from the government, knows how aptly they represent the childhood of the race in the use of money.* While they are wretch-

* It is gratifying to see how clearly this weakness is recognized, and how intelligent a treatment is applied by the superintendent of the leading Indian school in America, as shown in the following extracts from a letter to the writer:—

"We still use the savings-bank as an adjunct to our system of education, and it has grown and enlarged as the school has grown. We place equal emphasis on the earning. We require our students to *earn* and *save*.

"During the summer we place out in the country a very large proportion of our students. Just now we have out 586. They are all earning good wages in

edly clothed and housed, they will invest their money in bright tin boxes and Saratoga trunks.

The idea of school savings dates from 1834, when it was adopted in a communal school in Le Mans, France. The system was next established at Würtemberg in 1846, and in Buda Pesth in 1866. The most active propaganda was commenced in Belgium in 1866 by Professor Laurent, of the University of Ghent, who travelled about the kingdom, going from school to school explaining the advantages of such an institution to educators and the people. As a result of his labors, about \$800,000 was deposited by the children of the country by the close of 1891. The system has now been introduced into most of the countries in Europe.

France now leads the world in this department of education, thanks to the scientific methods and complete devotion of M. A. C. Marlacée. He was deputed by his government to make a study of educational methods, with especial reference to economic instruction at the Vienna Exposition in 1873. He also visited the schools' savings-banks in Belgium, Germany, and England, and consulted with Professor Laurent and other authorities. The plan which he developed is now in use, under the protection of the government, throughout France. In 1892 there were 23,375 schools where children's savings were received, and through them 478,173 children kept savings accounts which reached the aggregate amount of 12,683,312 francs. A frequent mode of bestowing aid is to give to the chil-

proportion to their ability. The earnings of the school year will probably exceed \$25,000. We impress upon those who have charge of our students to teach them to save, to buy whatever may be necessary economically, and to buy with wisdom. We have a system of reports which keeps us informed in regard to each case, so that we can ourselves emphasize instructions. Students going out each make a contract, and part of that contract is to save.

"The banking system is in the school, but we use the local bank and \$10,000 in 6 per cent. bonds. The bank pays 3 per cent. Our depositors number above 700, practically seven-eighths of our pupils. The others would be depositors, were they not too young to earn money or too recently arrived." From a letter from Captain R. H. Pratt, of the Tenth United States Cavalry, superintendent of the Carlisle Indian Industrial School at Carlisle, Pennsylvania.

dren of the poor a savings-bank account in lieu of money. Madame Carnot, wife of the French president, in 1888 distributed among four hundred of the poorest children in Paris savings-bank books, each containing a credit of ten francs.

The systems in use in Germany, Hungary, Russia, Switzerland, Denmark, Holland, and England, are commonly managed by private associations. In Italy the number of children depositors through the schools increased from 11,933 in 1876 to 65,062 in 1885, and to 102,832 in 1888; but there was a drop to 90,974 in 1890. The amounts of deposits for the same periods were 32,049 lire, 376,345 lire, and 496,564 and 382,674 lire. In Hungary the increase has been constant, starting with 2,621 pupils in 1876, and reaching 37,737 in 1890; and the total of deposits, which had started with only 13,337 gulden, had reached 113,264 gulden in 1886. In Germany in the year 1888 savings-banks in connection with 834 schools had 61,940 children patrons and deposits amounting to some 640,000 marks. Besides these there were about 50 other children's savings-banks. In 1892 there were 158 cities and 2,272 villages in the empire with facilities designed especially for youthful saving. They included 1,091 school savings-banks, with about 4,000 places of deposit, 1,821 Youths' Deposit Banks (*Jugend Darlehnskassen*), 19 confirmation banks, 336 pfennig savings-banks, and 100 Sunday-school savings-banks. There were in all 243,933 youthful patrons of these various institutions, and savings amounting to some 1.76 million marks.

A common scheme for encouraging small savings, adopted by the postal and other savings-banks, is the issuing of cards containing printed spaces for stamps. The depositor may invest his savings in postage-stamps of the denominations of a penny, ten centimes, and the like, and paste them in these spaces. When his card is filled, it contains an equivalent in stamps of the minimum de-

posit which the bank will receive,—as a shilling, a franc,—and then it will be received as money. In England such blank cards can be had at all post-offices on application. In England, also, agents of the postal banks go to the school-houses to collect the children's deposits, if such an arrangement be desired. In Italy the teacher may receive deposits from his pupils, and may obtain from the postal savings-bank a book in which the entire sum of deposits is credited from time to time, the teacher himself keeping the individual accounts of the pupils separate.

The matter seems to have first come into public notice in the United States in a paper read by Mr. John P. Townsend, of New York, before the American Social Science Association in 1876, and about the same time through articles for the press by Mr. T. S. Merrill, of Beloit. Mr. Merrill was instrumental in establishing a bank, founded on the result of his investigation in Europe, in the public schools of Beloit, which, however, only lasted five years. The next experiment in this direction was that of Captain R. H. Pratt, of the Tenth Cavalry, superintendent of the Carlisle Indian Industrial School.

An interesting experiment was that of Superintendent C. M. Carpenter in the public schools of Bloomington, Indiana. This was made to yield the depositors 10 per cent. interest by operating in connection with a local building association. The money from the different grades was placed in envelopes, and these were taken to the Workmen's Building & Loan Fund and Savings Association. The school was carrying 100 shares of running stock, for which it paid \$25 dollars weekly. The balance of the deposit was applied to the purchase of paid-up stock bearing 6 per cent. interest. This high rate was due to a number of causes. Being conducted on the co-operative principle, there were no salaried officers and scarcely any expense of any kind. Interest was only paid on even dollars; and deposits were not paid interest from

the date of deposit, but interest began to run from the last Monday in the month. Out of 1,100 pupils in 1893, 650 were depositors. The average weekly deposit for the school was \$47.17, and the average weekly withdrawal was \$18.81. The subsequent history of the experiment shows how essential it is to have teachers aroused to the importance of such an institution. On the removal of Superintendent Carpenter, who was the organizer and manager, all the deposits were soon withdrawn because his successor took no interest in it.

The present development of school savings in this country is due largely to the enthusiasm and untiring efforts of Mr. J. T. Thiry, of Long Island City, and of Sarah Louisa Oberholzer, of Norristown, Pennsylvania. Mr. Thiry, who is a native of France, came to this country a few years ago for his health, and has since proven himself an invaluable citizen. While serving as school commissioner in Long Island City in 1885, he introduced the savings system into the city schools; and he is still a tireless worker for school savings. The spirit and method of this work in America are best described in Mr. Thiry's own words:—

Here, then, is the field, the inspiration, and the aim of the school banking system. It takes the principles of frugality and thrift down into the training-ground of the young,—the public schools,—and confirms them in those habits upon which success in their future struggles for competence will depend. By so doing it fosters the morals, for a better manhood is inseparable from a frugal life. Thus school banking is in thorough harmony with the school; for, as the school aims at making a good citizen, so likewise does school banking. It is an object-lesson in political economy, and is of telling import when the pupil at last crosses the line which divides the worlds of business and study. The practical conduct of school banking is very simple. Every Monday morning ten minutes are devoted by teachers to the collection of the savings of the scholars. These savings are deposited in the savings-bank to the credit of the scholars. When a child has a deposit of one dollar, the bank provides a bank-book. Money is only to be withdrawn by check, signed by the depositor and by the parent or teacher.

This method, varying somewhat from that of Belgium and other European lands, I had the privilege of introducing into the schools of Long Island City, New York, in 1885. What have been the results of the movement, then only to be regarded as a hazardous innovation? Twelve years have passed. School banking long ago ceased to be an experiment. It is now in successful operation in sixty-three cities and villages in the nation. The total amount deposited to the credit of the children is \$451,211.37. Of this amount \$158,197.14 remained due to the depositors March 16, 1897. These statistics represent what may be described as the regular system of school banking. This system has, however, given rise to several others in the schools, such as the stamp and collection systems, and to several philanthropic organizations of a more general character, such as the Penny Provident Fund of New York, the Provident Savings Bank of Baltimore, and the Stamp Savings System of Grand Rapids, Michigan.*

Mr. Thiry publishes an annual report of the standing of the different school savings-banks in the United States. The report for the year ending March 16, 1898, shows a total number of school-houses having savings-banks of 349, and these containing 1,809 banks. In these schools there were registered 97,999 pupils, of whom 41,863, or nearly one-half, were depositors. The total deposits amounted to \$530,319, and the total withdrawals to \$350,668, leaving due the depositors \$179,651. As compared with the standing for the year ending March 16, 1897, the report shows extraordinary progress. There were then only 280 schools with banks, and only 1,572 banks. The amount due depositors has risen from \$158,197.

An index to the capacity of Mr. Thiry and Mrs. Oberholzer for propaganda is found in the fact that, out of the total number of school-houses containing savings-banks, 53 are in New York and 153 in Pennsylvania, their respective home states. These figures also furnish an index to the inadequacy of the voluntary movement. It is no

* Extract from an address before Council of State Superintendents at Onondaga, New York, October 22, 1897, and published in the Report of the Transactions of the Association.

disparagement of the principal movers in the cause to conclude that, after thirteen years of active and earnest effort, the results attained are proof of the inadequacy of unaided voluntary action. In these years only seventy-six towns and cities in the United States have adopted school savings, and these extend over only eight states. Scarcely an impression has been made upon the school system of the country. The reasons should be clear enough.

The voluntary system places too great a reliance upon the skill and interest of superintendents and teachers. This is the rock on which a number of school banks have gone to pieces, notably the one at Bloomington, Indiana, before mentioned. Every change of superintendents must place in peril the continuance of the children's saving system, because its vitality depends upon the interest and appreciation of the incoming superintendent.

In the second place the system imposes too heavy a burden upon the superintendent. If it is made a regular requirement, the superintendent, or teacher, may be expected to give instruction in the general principles of saving; but, in order for this much to be accomplished, it should be a universal and well-recognized feature of school training. In addition to this the system requires the teacher to be to an extent a banker, and it requires him to enter into rather a complicated arrangement with a local bank; and he may have no qualification for either of these offices.

Another obstacle to their success is a lack of confidence in local banking institutions. Mrs. Oberholzer writes, "The lack of public confidence in banking institutions has been our greatest drawback in the introduction of school savings-banks." In the same letter she says, "I am in favor of postal savings, and all secure and legitimate methods for saving money for individual and public benefit." Where there are a number of banks in a locality, it

may often be a delicate matter to select one of them to manage the school savings. Local jealousies growing out of such selection might seriously embarrass the superintendent and cripple the success of the institution.

Hence the two chief desiderata for a successful school savings system are (1) the incorporation of instruction in savings in the curricula of the school and (2) a safe and competent outside agency for the collection and custody of the funds. With instruction and periodical visitation reduced to method, the foundation for the greatest progress in savings will have been laid.

A postal savings system can afford a satisfactory custody and a competent corps of collectors to make periodical visits to the schools. The postal system has the additional advantage of reaching both the parents and the children. It can send its missionaries to the home and to the factory to collect savings and to explain the principle of the savings-bank. For any private institutions such visits would be very delicate undertakings, and doubtful as to their results.

The full value of school savings could not be reached unless the parents were also indoctrinated with the idea, and the parents need considerable instruction in order to secure their co-operation. Poor parents, whose children earn money out of school hours, are often incompetent to advise their children as to how to spend their earnings, which are very likely to be spent to the injury of the children. Newsboys are alarmingly addicted to the use of tobacco. If their parents could be induced to become patrons of the savings-banks in ever so small a way, the school savings-bank would have secured a powerful ally.

The need of such co-operation is also great in the case of the well-to-do parents. To such families the savings-bank visitor might suggest salutary modifications in the domestic economy. The pampering of children in such families is likely to prove their ruin. An unwise and

indiscriminate catering to the wants of children is the most natural fault of a parent who is able to respond to their appeals. In this respect the children of the poor have the advantage. They at least learn the lesson of making, if they know nothing of saving. A wholesome doctrine for the adoption of well-to-do homes would be to teach the children to look to their parents, as a matter of course, for provision for their physical necessities and for their education, but for nothing more than this. Facilities for earning should be afforded by the parent, if necessary, in the care of the house and grounds or the garden or the furnace or amanuensis work or doing errands. In such cases payment should not be made in money, but in certificates of deposit in the savings-bank. Every opportunity and facility should be used for increasing the acquaintance and familiarity with the savings-bank.

These considerations point to the savings-bank as the best educator in practical economy. They recognize the present economic order as the order of the future, in so far as we have any concern. With this fact kept in view, it will be seen that the chief remedy proposed, state education in saving, cannot be regarded as in any sense socialistic. Its spirit is as diametrically opposed to collectivism as possible; for it seeks, above all, to strengthen the individual for the battles of competition. It seeks to impress the lessons of self-control and self-discipline for the building up of economic strength.

It has been the object of the writer in the preceding pages to direct attention to what seems a serious danger in the present trend of meliorative thought; and, in so far as this trend of thought seeks the elevation of the masses through the influences of culture, he has sought to expose its weakness. He has also sought to trace the economic bearings of education and to indicate how far existing systems come short of the ideal. He considers the build

ing of economic strength to be the chief function of education. Here he would not be considered as favoring a merely materialistic scheme of education, neglecting the imaginative, æsthetic, and ethical sides of the child's nature, but as emphasizing the interdependence of growth in culture and of control over immediate wants. A recognition of the incompetency of present educational schemes to build up an economic basis for growth in individual culture will at the same time lead to a recognition of the grain of truth in the assertion, so often made, that our educational systems are impractical. Following this line of reasoning, the writer is forced to the conclusion that instruction in saving, both by precept and example, both to children and adults, promises more than anything else to give the practical finish to our educational schemes. He believes that an institution which will commend itself to the approval and the confidence of the masses in so far as to secure their patronage will conduce more than almost anything else to individual self-realization.

The scheme of required instruction in saving, supplemented by a central public savings-bank, indicates the writer's view as to the extent to which economics should be taught in the elementary schools. It might well be taught under the name of practical economics; for it promises to guide the individual to a higher plane of living, to supply him with both the theory and the facilities for attaining unto the better things of life.

Finally, these views are presented in the belief that, if the educational aspects of savings are clearly recognized by the public, it will wisely influence the provisions for a state savings-bank in America, when public sentiment is ripe for such an institution.

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A CONNECTICUT LAND BANK OF THE EIGHTEENTH CENTURY.

IN a previous paper the writer described the Massachusetts Land Bank of 1740, and pointed out that the theory upon which it was founded had been the subject of discussion long before the actual trial made in 1740.* In 1714 an attempt had been made to organize a similar company; and this in turn had been based upon a project originally submitted to the Council of the Massachusetts Bay in 1686, and for a time favorably considered by that body. In the account of a Connecticut company organized in 1732, which forms the subject of the present paper,† certain resemblances to the Massachusetts Land Bank will be easily detected, whose origin may perhaps be attributed to the discussion in this province in 1714 and 1686. In each case the intention apparently was to form a company which should furnish bills somewhat similar in character to the bills of public credit then in circulation. The currency of these bills was to be attained through lending them to borrowers who would agree to receive them in trade and commerce, and who were to furnish adequate security for their loans, the general idea being that real estate was best for that purpose. The borrowers were to constitute the company, which was to have no capital stock paid in; and their voice in the management of its affairs was to be proportionate to their borrowings.

The Connecticut company did not originally pose as an organization of this description. It was chartered in 1732 by the Connecticut Assembly, under the title of the New London Society United for Trade and Commerce. It is evident from the language of the charter that the intention of the Assembly was to permit the formation of a joint stock company, in

* *Currency Discussion in Massachusetts in the Eighteenth Century*, in this Journal, vol. xi., October, 1896, and January, 1897.

† The story of this Connecticut Land Bank formed the subject of a communication to the Colonial Society of Massachusetts at the meeting of January, 1898.

which the members should participate in proportion to the amount of their investments. The alleged purposes of the society are sufficiently indicated in its title. If upon an analysis of the affairs of this company we shall find in its actual organization enough points of identity with the schemes of the banks proposed in Massachusetts to indicate a community of origin, we shall add to the proof already at hand another instance of the far-reaching influence of the London pamphlet* which furnished the methods for the Massachusetts projects of 1686 and 1714 and for the experiment of 1740. In order that we may reach a conclusion upon this point, a review of the facts connected with the career of this society, so far as they can be gathered from the Colonial Records of Connecticut and the publications of the Connecticut Historical Society, will now be presented.

In May, 1782, Thomas Seymour, John Curtiss, John Bissell and fifty-eight others, said to have been representative men of good standing from various parts of the colony, presented a petition to the Assembly. The petitioners represented that for the promoting and carrying on trade and commerce to Great Britain and his Majesty's islands and plantations in America and to other of his Majesty's dominions, and for the encouraging the fishery, . . . as well for the common good as their own private interests, they had agreed to unite themselves together to be a society and have one common stock. For want of authority to act as societies do by vote, they labored under great disadvantage. They prayed to be put in a politic capacity as a society.†

The Assembly favored the petitioners, and at the same session resolved and granted that the memorialists should be declared and constituted to be for the future one society in fact and in name, by the name of the New London Society United for Trade and Commerce. They and their successors were empowered to admit others; to sue and be sued by their name aforesaid as other societies were by the law of Connecti-

* *A Model for erecting a Bank of Credit*, etc. This pamphlet, reprinted in Boston in 1714, was unquestionably in possession of the person who prepared the scheme for the proposed bank in 1686. See this Journal, vol. xi. pp. 71-77.

† *Connecticut Colonial Records*, vol. vii. p. 390.

cut; to elect officers annually, and to prescribe rules for their meetings, which orders and rules were to be binding upon the particular members of said society; and no man should have liberty to take out his stock without leave of the society, though he might sell the same. Then followed provisions for organizing the society.

The generally accepted account of the career of this society is that the society was formed in 1730,* "being legalized and patronized by the colonial government," and went into immediate operation. "Loans upon mortgage were obtained from the public treasury, and the capital employed in trade. It had about eighty members scattered over the whole colony. . . . To facilitate its operations, the New London Society emitted bills of credit, or society notes, to run for twelve years from the day of date, October 25, 1732, to October 25, 1744. These bills were hailed by the business part of the community with delight. They went into immediate circulation. But the government was alarmed. Wise men declared the whole fabric to be made of paper; and, having no solid support, it must soon be destroyed. The governor and council issued an order denouncing the new money, and an extra session of the Assembly was convened to consider the bold position of the society. This was in February, 1733. The legislature dissolved the association; and the mortgages were assumed by the governor and company, and the bills allowed to run until they could be called in and the affairs of the society settled. . . . According to their own statement, a great part of their stock had been consumed by losses at sea and disappointments at home. . . . At a meeting held June 5, 1735, they unanimously dissolved themselves."

This account is derived in part from sources not indicated by the author. In part it rests obviously upon the legislation of the colony. It happens that the published records of the colony contain so complete a rehearsal of the various transactions of the society that, when taken in connection with the material to be derived from the publications of the Connecticut Historical Society, they make possible a more detailed analysis of its career. It is evident, from information to be obtained

* *History of New London*, by Frances Manwaring Caulkins, pp. 242, 243.

from the sources mentioned above, that the society was organized under the charter granted at the May session in 1732, and that, in disregard to the purposes set forth therein, it immediately proceeded to enter upon the work actually proposed — namely, to furnish a medium of trade to the colony of Connecticut — through the notes or bills of the society. The so-called stockholders turned out to be, not contributors of funds, but borrowers of notes. In short, the company was the prototype of the Massachusetts Land Bank of 1740.

The first step taken of which we obtain any trace was a vote passed in August, 1732, for printing £30,000 in bills of credit of the society. For the purpose of carrying this vote into effect, the committee having the matter in charge wrote to one Timothy Green, the public printer of the colony of Connecticut, who was then in Boston, informing him what had been done, and requesting him to procure paper for the bills and to employ an engraver to cut the plates for the society. This service he performed, forwarding the sheets in parcels.* A fac-simile of one of the bills is given in the Connecticut Colonial Records. The face of it, so far as it is of importance in this connection, reads as follows: † —

Three Shillings. This Indented bill of *Three Shillings*, Due to the possessor thereof from the NEW LONDON Society United for Trade and Commerce in *Connecticut* in NEW-ENGLAND, shall be in Value Equal to Silver at *Sixteen Shillings pr.* Ounce, or to Bills of Publick Credit of this or the Neighboring Governments, and shall be Accordingly accepted by the Treasurer of said Society, and in all Payments in said Society from time to time.

New-London, Aug. 1732

by Order of Said Society

} Comt.

The form, it will be observed, was constructed upon that of the old tenor bill. It anticipated the new tenor bill in stating a value in silver at which it should pass; but there is nothing about the twelve years which the bills, according to the account from which we have quoted, were to run. The date also differs from the date given in that account.

The process of emission began at once; and it was not long

* *Collections Connecticut Historical Society*, vol. iv. p. 270.

† *Connecticut Colonial Records*, vol. viii. p. 410.

before knowledge of what was being done under the guise of fostering trade and commerce came to the ears of Governor Talcott. On the 9th of February, 1732-33, he issued a precept to the sheriff of Hartford County, in which he recited that he had been informed that the New London Society for Trade and Commerce had struck and signed bills on the credit of the society to the sum of many thousand pounds, and had sold such bills to his Majesty's subjects as a medium of trade, current and equal in value to current money or bills of public credit of Connecticut or the neighboring governments, and had received for the said bills provisions and other commodities of the country in great quantities. This he alleged to be contrary to the peace of the crown and a great wrong to the purchasers of the bills, and a great abuse of the powers given to the society by the Assembly. The sheriff was therefore instructed to summon the said society to appear before the General Assembly at Hartford on the 15th of February, to show by what authority they had emitted and sold their bills, and to show cause why the Assembly should not order them to refund and pay back to the possessors of their bills the sums for which they had been sold, and further order that they should thereafter cease to strike or emit any bills on their credit, or to be a society.* At the same time a precept addressed to the sheriff of New London County was issued, in which he was directed to summon Daniel Coit, the secretary of the society, to appear before the Assembly at the same time and place, and to bring with him the records and doings of the society.†

At the special session of the legislature summoned for the consideration of these matters the society put in an appearance. They were apparently disposed at first to dispute the jurisdiction of the General Court; but this plea they waived, and based their defence upon the ground that the bills which they had issued were not of the nature and tenor of bills of the colony, but were of the character of bills of exchange, which they had a natural right and authority to emit.

The Assembly, having duly considered the plea of the society, submitted to vote a series of questions the determina-

* *Collections Connecticut Historical Society*, vol. iv. pp. 268, 269.

† *Ibid.*, vol. iv. pp. 269, 270.

tion of which would settle the action necessary to be taken under the circumstances. The answers to these questions may be formulated as follows:—

First. It was not lawful for any society of Connecticut nor for any person or persons, not having authority for that purpose from the government, to emit on private credit bills of credit of the tenor of bills of credit of the colony.

Second. The bills emitted by the New London society were of the tenor and nature of the bills of credit of the colony, and were not bills of exchange.

Third. The society ought in justice to redeem their bills in the hands of possessors.

Fourth. It was expedient for the Assembly to pass an act prohibiting the emitting or uttering bills of credit on any fund or credit within the colony of Connecticut which were intended for a general currency in lieu of money.*

Having determined these points, the Assembly proceeded to enforce the fourth proposition by passing an act of the character therein suggested. They stated in the preamble that they had observed that great disorder and confusion had arisen in the government by reason of the New London Society United for Trade and Commerce having presumed to strike and emit a certain number of bills of credit on their own society, and whereby many honest people were in danger of being defrauded. The peace of the government was thereby subverted, and the credit of the colony might sink. Those who should violate the act then passed were made subject to the penalties imposed upon forgers and counterfeiters of bills, and also to a forfeiture of double the sums mentioned in the bills which should be emitted.

The precept issued by the governor not only required the society to show cause why it should not cease to issue notes or bills, but also why it should not cease to be a society. Up to this point the Assembly had not taken into consideration the question whether or not the act under which the society was organized had been violated or not. The clerk of the society, however, had been summoned to produce the records; and the Assembly, having first caused the act under which the

* *Connecticut Colonial Records*, vol. vii. p. 421.

society was organized and the record of the doings of the society to be read, proceeded to the consideration of this question. The result of this examination is stated in the following words:—

It was observed that a stock was necessary to be made, by the proportion of which stock put in by the members thereof all their votes were to be computed, and that nothing but mortgages were put in by the members thereof to make this stock, on which the following question was put, whether by the said mortgages any stock were made, according to the true interest and meaning of the grant? Resolved in the negative.

"Nothing but mortgages were put in by the members thereof to make this stock." These words point plainly to an organization upon the same basis as that effected eight years afterwards by the Massachusetts Land Bank, which also emitted bills and lent them upon mortgage security to borrowers, the borrowers becoming thereby entitled to a voice in the proceedings of the company proportionate to the extent of the loan. On the above showing the Assembly determined that the New London Society had by its mismanagement forfeited the privileges granted to them, and at once proceeded to repeal the act containing the grant.*

The question next arose, How could these bills be withdrawn with the least disturbance to the community? The records do not state the amount supposed at that time to be in circulation; but Timothy Green, who procured the paper and the plates in Boston, said in his letter to Governor Talcott, "How much of the £30,000 is emitted is best known to the committee, clerk, and treasurer of said society: what is printed, I conclude, is about fifteen thousand pounds."† The Assembly determined at the special session that under the circum-

* *Connecticut Colonial Records*, vol. vii. p. 422. The statement has been made that the bills of the society were hailed by the business part of the community with delight. This is corroborated by a correspondent of Governor Talcott, who speaks of "the swift currency of the New London Society bills through so many hands." *Collections Connecticut Historical Society*, vol. iv. p. 279.

† As public printer, Green printed the public bills of credit. It is not much of an assumption to say that he must have printed the bills of the New London Society. His conclusion that there had been about fifteen thousand pounds printed may therefore be regarded as authoritative.

stances it was expedient to emit £30,000 in public bills of credit, a part of which was to be let out for the benefit of the government and the remainder to be tendered to such persons as the Assembly should appoint and as should give security, for the drawing in of the bills lately emitted by the New London Society.*

The determination of the exact amount to be set aside for the relief of possessors of these bills and of the manner in which the public bills should be applied for the purpose of drawing in the society bills was not then definitely concluded; though it may perhaps be considered that the limitation to such persons "as should give security" was meant to apply to those who, as borrowers of the bills of the society, had assumed responsibilities in connection therewith, and sufficiently indicates the intention of the Assembly at the time.

At the May session in 1733 Thomas Seymour and others presented a petition praying that the New London Society United for Trade and Commerce might be revived. They also asked for a loan of £30,000 from the colony. For the purpose of determining the attitude of the Assembly towards this petition, two questions were submitted. The first was whether it was within the authority of the government of Connecticut to make a company or society of merchants. In response to this it was resolved that, although a corporation † might make a fraternity for the management of trades, arts, or mysteries, endowed with authority to regulate the management thereof, yet (inasmuch as all companies of merchants were made at home by letters patent from the king, and the Assembly knew not of one single instance of any government in the plantations doing such a thing) that it was at least very doubtful whether they had authority to make such a society, and hazardous therefore for the government to presume upon it. The second question was whether it would be for the peace and health of the government to create such a society. The answer given by the Assembly was that a society of merchants whose undertakings were vastly beyond their own compass, and who must depend upon the government for their

* *Connecticut Colonial Records*, vol. vii. p. 422.

† The Governor and Company of Connecticut.

supplies, and must rely on their influence upon the government to obtain them,—such a society was not for the peace and health of the government.*

Having thus finally disposed of the question whether the society should be revived and permitted to adjust its own affairs, the Assembly proceeded to deal with the subject of protecting the rights of possessors of the society bills. An act was passed appointing a court of chancery to hear and determine according to equity all controversies about said bills and the doings of said society and the several officers and members thereof. The preamble opens with a statement that sundry persons have of late mortgaged their lands to Mr. John Curtiss, treasurer of the late New London Society for Trade and Commerce, and to his successor, or to Daniel Coit, with a design to form themselves into a society for trade and commerce, under the name of the New London Society for Trade and Commerce. Having thus distinctly stated the character of the society, the preamble cautiously asserts that these mortgagors then assumed themselves to be a society for trade and commerce, and as such emitted and put in circulation many thousand pounds' worth of their bills. It then alleges that the deception of the mortgages was discovered, that the credit and currency of the bills was lost, and that the possessors of the bills were utterly defrauded. To prevent such mischiefs for the future, a special session of the legislature was held, at which it was declared that the society had no right to emit bills of credit; and it was, therefore, by act of Assembly dissolved. At the same session the Assembly also resolved that the society ought, in equity, to refund and pay back to the possessors of such bills so much in current money or bills of public credit as by said society bills is mentioned or expressed. At the time when the Assembly originally announced this conclusion they neglected to fix any penalty for failure to comply with it, and they did not provide any effectual means for enabling possessors of bills to recover from mortgagors. As a result, the mortgagors still neglected to pay to possessors the sums due them as aforesaid or any part of the same. In order to cure this evil, it was enacted that

* *Connecticut Colonial Records*, vol. vii. p. 449.

the mortgagors were liable to possessors of bills; but, inasmuch as the mortgagors had in their possession certain property of which no account had been rendered, they were to be permitted to hold one meeting, which, however, was not to last over three days, and were authorized to proceed to settle their accounts as best they could. They had authority given them to appoint a committee who should call upon the former officers for their accounts, who could sell the property of the mortgagors, pay off possessors of bills, and sue debtors before the special court. This court had authority given it to adjust and settle differences between the various parties interested in these proceedings. In order to give the mortgagors time to convert their property, the right of action on the part of the possessors of bills was postponed until six months after the rising of the Assembly. Special provision was made for discovering what mortgagors were in arrears; and it was made a condition precedent that the possessor of bills should, before bringing his action, lodge his bills in court.*

It has been already stated that at the special session it was determined that it was expedient to aid the mortgagors in their efforts to withdraw the society bills by lending public bills to those who could give security therefor. The time had now come to give effect to this expression of opinion. £15,000 were lodged in the hands of a committee, to be lent to mortgagors who should first give to the committee society bills to the amount of the proposed loans, and who could then have the public bills at the rate of 6 per cent. interest on furnishing landed security equal to twice the amount of the loan.† It is evident that the security thus demanded was regarded as applying to the principal alone. Separate bonds were required for the interest; and afterwards John Bissell, John Curtiss, Thomas Seymour, Daniel Coit, and six others gave bonds to the colony for large sums, in behalf of sundry others who were mortgagors, to answer for the payment of interest. At a later date questions arose about the substitution of the

* *Connecticut Colonial Records*, vol. vii. pp. 450-452.

† *Ibid.*, vol. vii. p. 453. This proceeding may have been the basis for the statement that loans upon mortgage were obtained for the public treasury and the capital employed in trade.

bonds of individual mortgagors in place of these joint bonds.* There was trouble, also, about obtaining proper releases for satisfied mortgages given to the governor and company of the colony; and resort was had to special legislation on the subject.† It does not appear from the records that the committee having charge of the settlement of the affairs of the company were much bothered by recalcitrant mortgagors. Perhaps the records of the special court might disclose some cases of this sort; but it seems probable that the public bills furnished by the colony for purposes of exchange, taken in connection with the funds derived from the sale of the property of the society, provided ample means for the redemption of such bills as were presented to the committee. How it was possible for a society without capital to have acquired any property of consequence in so brief a career can only be conjectured; but, if the same course was pursued in Connecticut as was afterwards adopted in Massachusetts, this property must have represented ventures in trade accomplished through unsecured notes issued to the society.‡

There were controversies both with reference to the property which remained in the hands of the committee and to the adjustment of the losses in trade. In October, 1735, the committee petitioned the Assembly to cause certain proceedings to be postponed, as they were about to settle the affairs speedily and divide the estate.§ The question of the responsibility for losses proved more perplexing than had been anticipated, if the committee were really of opinion that they could speedily divide the estate; for they were obliged next year to ask for the appointment of a commission to determine these controversies. In response to this request a commission was appointed with full power.

It is evident that in 1742 there was a default in the payment to the colony of the interest on some of the mortgages, for Curtiss then petitioned for leave to set over to the colony

* *Connecticut Colonial Records*, vol. vii. p. 566, vol. viii. p. 69.

† *Ibid.*, vol. viii. p. 234.

‡ In addition to "the losses at sea and disappointments at home" which had absorbed a great part of their stock, one or two special ventures are mentioned in the *History of New London*.

§ *Connecticut Colonial Records*, vol. viii. p. 24.

real estate, in order to satisfy certain executions for "use-money" due to the public treasury of the colony from the New London Society. This reference to the society as debtor of the colony can but be the careless use of language. Curtiss had been the treasurer of the society when it was in existence. After its dissolution he had been active in winding up its affairs; and he was one of those who, in behalf of other mortgagors, had given bonds to secure the payment of interest on the loans. These executions for "use-money" were probably on some of these bonds. Through the surrender of certain property in New London and by giving a bond for what remained due, Curtiss, with the approval of the Assembly, was released from the obligations that he had assumed.* Individuals, however, continued to occupy the time of the Assembly with their petitions as late as 1749.†

The exact amount of the circulation of the bills of the New London Society does not appear. It will be seen from what follows that it required less than £15,000 in the public bills of Connecticut, in their denominational values, to meet the calls upon the committee of the Assembly for purposes of exchange. In all probability the amount of the circulation was not far from £10,000. It would seem as if the committee having in charge the letting out of the £15,000 to the mortgagors must have reached the conclusion in October, 1733, that the period of their active work was over; for they then reported that they had received £9,507 11s. 8d. in bills of the society, which bills were then ordered to be burned.‡

This was followed by a petition in 1734 by some of the members of the late society, praying for a loan of so much of the £15,000 as was not required for the purpose of exchanging the society bills. The Assembly was disposed to grant this request, but, before doing so, required the representatives of the society to take steps to bring before possessors of bills throughout the entire colony knowledge that an opportunity was offered to exchange such bills for the public bills of credit of the colony. To carry this into operation, it was resolved that the memorialists should make a proclamation in

* *Connecticut Colonial Records*, vol. viii. pp. 491, 492.

† *Ibid.*, vol. ix. pp. 309, 438, 445, 490. ‡ *Ibid.*, vol. vii. p. 478.

the several towns in the colony to the effect that any person having bills of the society in his possession might, upon bringing them to the committee, have bills of the colony in exchange therefor. This proclamation was to be made by affixing a notice containing this information upon the sign-posts in such towns. If the committee should certify that this had been done and that six weeks had been allowed for the bringing in of the bills, then so much of the £15,000 as remained in their possession could be loaned to the mortgagors.* The lending of the unexpended portion of this redemption fund to representatives of the company, after these final efforts had been put forth to protect possessors of bills, is a distinct recognition of the compliance of the mortgagors with the law; and it may fairly be assumed that the circulation of the society bills must practically have ceased when this was permitted. Although, as we have seen, there were matters connected with the company which occupied the time of the Assembly as late as 1749, this is to all intents and purposes the disappearance of the company as such from the scene.

We have been enabled through evidence in the records to ascertain the approximate date and the method of the organization of the society, and have had before us the form of the bill which was issued. It remains to explain the statements that the bills were dated in October, and were to run for twelve years from the day of date. The date (August) in the fac-simile given in the records corresponds with the time when Green said that he executed the order for the company, and had the bills engraved. It is reasonable to suppose that the entire issue bore the same engraved date, and was similar in character. This conjecture is re-enforced by the conclusion of the Assembly that the bills were of the tenor of the public bills of credit,—a statement which could hardly have been made if they were twelve-year notes. The mortgages given to the New London Society will naturally suggest themselves as perhaps having features to explain the impression that the society notes had twelve years to run. These mortgages, it will be remembered, were said by the Assembly to have been made to John Curtiss, treasurer, to his successor, or to Daniel Coit.

* *Connecticut Colonial Records*, vol. vii. p. 508.

Two of them, at least, are to be found in Hartford; and through the kind offices of Professor Franklin B. Dexter, of New Haven, I am able to give their material features. The consideration in each mortgage was "current money." The date of each was October 24, 1732; and both ran to John Curtiss, treasurer of the New London Society United for Trade and Commerce. The proviso in each read that the deed was to become null and void upon payment being made "either in silver at sixteen shillings per ounce, or in true bills of public credit of this or the neighboring governments, or the like sum in bills of the New London Society United for Trade and Commerce upon the credit of said society, and that on or before the thirtieth day of October, which will be in the year of our Lord Christ one thousand seven hundred and forty-four." A person endeavoring to work out a description of the society bills from these mortgages might easily be led to describe the bills as having twelve years to run. Perhaps the New London Registry would furnish examples from which an even closer description might be drawn.

The true character of the society seems not to have been hitherto set forth. Dr. Douglass refers to it as follows:—

Connecticut emitted bills only for the present necessary charges of government upon funds of taxes until 1733. Having granted a charter for trade and commerce to a society in New London, this society manufactured some bills of their own; but, their currency being soon at a stand, the government were obliged, in justice to the possessors, to emit £50,000 upon loan, to enable those concerned in the society to pay off their society bills in colony bills. Their charter was vacated, and a wholesome law enacted, that for any single person or society of persons to emit and pass bills for commerce, or in imitation of colony bills, penalty should be as in case of forgery or of counterfeiting colony bills.*

Dr. J. Hammond Trumbull, in his *First Essays at Banking, and the First Paper Money in New England*, overlapped this period in his notes, but did not cover it in the text of his paper, making but a brief reference to the society in a note.† Dr. Henry Bronson's careful study of the public bills of credit of the colony of Connecticut, communicated to the New Haven

* *A Discourse concerning the Currencies*, . . . p. 13.

† *Proceedings American Antiquarian Society*, October, 1884, Note D., p. 302.

Historical Society, treated of the colonial currency exclusively; and, although his subject brought him in touch with the transactions of the New London Society, he made no effort to analyze its affairs in detail.*

It is more than probable that materials may be found in Connecticut for a more complete history of this interesting experiment. The authorities for the foregoing account are practically confined to the colonial records and the Talcott papers in the publications of the Connecticut Historical Society. No person can rise from the perusal of these documents without feeling respect for the colonial government of Connecticut. The wisdom with which they treated the New London Society, whether we have regard to its peremptory closure or to the aid extended to its members in the performance of the duty imposed upon them to withdraw the circulation, is in marked contrast with the proceedings in Massachusetts under the arbitrary act of Parliament.

ANDREW MACFARLAND DAVIS.

* *Historical Account of the Connecticut Currency*, by Henry Bronson, M.D., *New Haven Historical Society Papers*, vol. I., following p. 170, with a pagination of its own. See the notes, pp. 42, 43, of the separate pagination.

LEVASSEUR'S "L'OUVRIER AMÉRICAIN."*

ECONOMISTS need no assurance that M. Émile Levasseur's recently published treatise on the American Workman gives evidence of painstaking, exhaustive, and scholarly research; of this the author's great repute is in itself ample guarantee. No work in English is at all comparable to this able, statistically descriptive presentation of economic and social conditions in the United States; the work has been left for a foreigner to do, in a foreign tongue, under the direction of two foreign institutions of learning in the interests of a foreign constituency; and, except for the same author's three-volume study of the French population, the work is indeed unique.

Avowedly a study of the American workman in his environment, these two volumes comprehend a full account of the development of American industries, a statement of the material resources of the United States, a forecast of probable economic progress during the next twenty or thirty years, a comprehensive discussion of labor conditions and problems, of social dogmas and of political tendencies. The scope of the author's investigations may be gathered from the following selection of chapter titles: Food of Workmen, Clothing, Lodging, Loan and Building Associations, Savings and Insurance, Real Wages and the Workingman's Budget of Income and Expenditure, The Accumulation of Fortunes and American Democracy, Tariff, Poor Relief, Conciliation and Arbitration, Socialism, Labor Laws, Labor Organizations, Wages of Men, Wages of Women and Children, Sweating, Immigration, Strikes, Crises. These subjects are treated at length, as they concern the social and material welfare of American workmen. In contrast with some more pretentious compilations, supposed to be descriptive of American character and conditions, M. Levasseur's work gives evidence of a more courteous and sympathetic, as it is a more scholarly, consideration

* *L'Ouvrier au Travail. L'Ouvrier chez lui. Les Questions Ouvrières.* É. Levasseur. Paris, 1898.

of traits and institutions peculiarly American; and of the author's freedom from national prejudice — one had almost said egotism — which not infrequently characterizes the writings of those foreigners who have attempted to "do" the country in a few weeks' sojourn. The author briefly sets forth the character of the work which he has accomplished, as follows: "In the chapters of this work, I have presented in their several aspects the material and moral conditions which surround the American workman: first, as he appears in the workshop at work; and, secondly, as he appears in the home. I have set forth the relations existing between him and his employers and his hopes of social amelioration; and I have attempted to make of him a character study, which, if it is not complete, has at least been done in all sincerity."

In estimating the development of American industries during this century, more especially during the last fifty years, the economist is face to face with one of the most perplexing statistical problems. The rise of new industries the exploitation of new sources of power, the adoption of new processes of production, the reorganization of industry and the instability of values are variables tending to vitiate comparative statistical estimates of material resources, past and present. Even within any single industry permanently operating during the entire period considered, changes in processes and in organization make comparative estimates misleading. It is with a full appreciation of these difficulties that M. Levasseur has undertaken his account of the industrial development of the United States; and these difficulties he has overcome, where they are not insuperable. In the hands of a less skilful writer, so compendious an undertaking must have assumed the form of a compilation such as German scholars are more accustomed to undertake. It is a peculiar excellence in M. Levasseur's work that he has succeeded, in spite of the immense mass of detailed statistical and descriptive data brought together, in giving to it a form and character which once for all removes it from the category of mechanical compilations. The reader is made to feel that the material has been so handled and synthesized as to compose a real treatise on the American workman at work, at home, as a citizen; and

he is made to feel, further, that the author has indeed "chosen impartially," that he has not been blinded by a "national vanity" which might have led him to "misjudge unfamiliar manners and customs of living and thinking."

The American employer M. Levasseur finds energetic, disposed to fulfil the conditions of contracts entered into with his workmen and exacting a like fulfilment of contracts from them, somewhat self-centred, "profoundly individualistic," and disposed to regard his duties to his employees performed and his responsibility for their welfare ended with the payment of stipulated wages. "Socially, it results from this individualism that the relations existing between employer and employed do not extend beyond the factory door." M. Levasseur urges upon American workmen, employers and employed alike, the necessity of coming to a fuller mutual understanding of each other's needs and aspirations, and of cultivating reciprocal toleration. "It is to be hoped," he observes, "that employers may become less absolute in formulating their demands, and more generally conciliatory in dealing with their employed." And, on the other hand, "that labor organizations may manifest less defiance towards employers, and less hostility to propositions brought forward for the advantage of workmen." M. Levasseur, however, is too well aware of the new conditions in modern industrial organization which have complicated the relations of employer to employed to look for a "solution" of the labor problem, as some American sociologists are disposed to do, in a moral regeneration of the parties engaged in production. These writers, who insist upon such regeneration, insinuate more or less directly that there *has been* a moral degeneration; and the animus of the individual writer usually manifests itself in fastening this degeneration upon one or another—employing or employed—class, according to personal prejudice.

Such an animus is manifest in the observation attributed to an American writer, that laborers are defiant because they are defying a class which has opposed every reform beneficial to them. It is altogether improbable that the reorganization of industry during this century, more particularly during the last quarter of the century,—obviously occasioned by the ex-

ploitation of new natural forces, the differentiation of employments, and the intenser capitalization of industry,—has been accompanied by any marked moral degeneration; and it is no more likely that a "solution" of the labor problem, in so far as that problem is peculiar to our present industrial organization, lies in the propagandic inculcation of "toleration and benevolence," or other virtues. The labor problem is inherent in the complexity of modern industrial conditions,—a complexity which defies simplification in the adjustment of individual interests. The problem is to bring some sort of harmony out of the conflict, real or apparent, of these interests; and no permanent harmony can or ought to depend upon forbearance and toleration. For, while there may be individuals in a community willing to sacrifice self-interests, there certainly are not industrial groups willing, as groups, to make such sacrifices. There is no organized industrial group in society to-day—whether of employers or employed, in industry, agriculture, or trade—which does not proclaim that it is receiving less than its dues, no group which manifests the least disposition to take a farthing less than the utmost it can exact from society. Each group is bound to seek its own interest, and, in a large sense, may be said to be right in doing so; and is bound to exploit less efficient industrial groups. That the "solution" of the labor problem, or composite of labor problems, does not devolve upon altruistic forbearance is sufficiently obvious when it is reflected that that solution is actually accomplished from day to day; that from day to day contracts for the employment of labor and capital are made, and the product of labor and capital is distributed in accordance with certain accepted principles of repartition. The higher co-operative organization of industry complicates the adjustment of individual claims; but some adjustment is accomplished, and the "solution" of the labor problem is effected by those actually engaged in the production of wealth.

Further, it is inconceivable that any of the parties concerned in this production should be materially influenced by would-be social reformers to forego any considerable share in the product of industry now apportioned to them in open com-

petition. Indeed, where competition is free, it is the only just regulator of incomes, of whatever character. Where the organization of industry has assumed a character which inhibits the free action of competition, free exercise of power on the part of the government may become expedient. But such exercise of power is always attended with risk. It carries in itself no guarantee that justice will be done, but only a guarantee that those intrusted with political power will seek to protect those classes and interests with which they are identified. While M. Levasseur does not find in that extension of government functions which naturally accompanies the development of modern industrialism any fatalistic progress towards socialism, he does find in the mass of labor legislation passed in the United States during the last few years what appears to him to be abundant evidence of a class legislation entirely inconsistent with democratic principles of government. And he therefore regards with suspicion any extension of government management into the domain of private industry. A solution of the labor problem dependent upon arbitrary exercise of power by the State endangers individual freedom, and in a democracy tends towards a régime of class domination.

The American workman at work M. Levasseur finds efficient and well paid; at home, well fed, clothed, and lodged; as a citizen, self-reliant and prosperous,—his great material prosperity itself at once occasioning and accounting for the turbulence and discontent which he at times so freely manifests.

It remained for M. Levasseur to discover among those "multiple, complex, and at times discordant characteristics of the American workman, completely naturalized for several generations," traits of character sufficiently universal to warrant the establishment of a *type supérieur*. M. Levasseur contemplates the perpetuation and greater differentiation of this superior type of workman under the conditions of education and social environment which obtain in the United States. "This type," he says, "will persist during the next century, however great the mélange of different and inferior types infused into the American industrial population."

American economists have not infrequently insisted upon the superior efficiency of the American workman. That superiority, however, they have been accustomed to associate with the selective influences of immigration; and they have not been able sufficiently to remove themselves from their immediate environment to detect the existence of national character. Probably no population presents a greater diversity of types than the population of the United States. No population is in its make-up more heterogeneous. And the question naturally arises whether after all the peculiar efficiency of the American workman is more than a direct, perhaps even a temporary, reaction upon environment, whether the superiority really lies in the workman or in his environment. Our industrial groups range through every grade of efficiency and comprise every nationality; and, if M. Levasseur has chosen a workman of superior efficiency as typical of American industry, another writer, equally observing and accurate, less optimistically disposed, might possibly have made out another type equally common and equally "American." Placed in a land of immense natural resources, the American is pre-eminently a wealth-producer, energetic and efficient; but the solidarity of the American people,—does it not rest rather upon community of interests than upon any national community of customs and character?

M. Levasseur presents data which seem to him to prove conclusively that during this century, especially during the last fifty years, American industry in general has had "an ample and magnificent development"; and he enumerates among the chief causes of this development that inventive mechanical ingenuity which, manifesting itself as it does in a multiplicity of inventions, he is pleased to consider a noteworthy national characteristic of Americans.

American producers have long felt the strain consequent on the rapid displacement of old machinery by new and more efficient machinery. This superannuation of fixed plant is so rapid as greatly to enhance the risks attendant upon productive enterprises in the United States, since it renders that element of cost which represents wear and tear of fixed plant incalculable. The greater the investment, the greater the loss

consequent upon the introduction of new mechanical devices. It may be further observed that inventions which promise any considerable economy in the application of labor or capital ordinarily attract new investments of capital seeking to reap the immediate gain arising from the new economy, and that these new investors have every advantage in competing with the old producers, whom they have forced to adopt, at whatever cost, the new methods of economy. The losses consequent upon this displacement of vested capital are immediate and indefinitely great; while the profits arising from the new economy in the application of labor and capital are remote, and distributed over an indefinite period.

A further result which may follow the adoption of a new method of production or a new mechanical device, and one which seems not to have been so commonly noted by economists, is that a permanent reduction in the sum total value of the product of an industry may accompany this destruction of fixed capital. This will always follow when the nature of the product is such that a decline in its value does not stimulate a proportional increase in its consumption. Here, also, the value of the capital employed in the industry is bound to decline. When, however, the new demand maintains the value of the product, the value of the capital employed may or may not decline, according as the new economy consists in more efficient machinery or in the substitution of machine work for hand labor. To simplify implements and reduce the proportion of capital employed to materials used is the effect of those economies resulting from inventions commonly referred to as improvements. These improvements tend to reduce the value of wealth accumulated within a community; but an opposing tendency is found in that increased demand which accompanies a cheapening of the product. Only those inventions which supplant manual labor by machine work tend directly to increase the accumulation of capital.

The motive which has led to the introduction of machinery, in the United States as in other countries, lies obviously in the economy of labor resulting therefrom; and it would seem unnecessary to seek other motives. M. Levasseur, however, would find an additional incentive for American employers in

the general high rate of wages paid American labor. "The higher the wages," writes M. Levasseur, "the greater the incentive for an employer to economize manual labor"; and he illustrates by supposing a machine which will last ten years, costing 50,000 francs and economizing the work of four men, proposed for adoption to an employer paying wages at the rate of 2,000 francs a year. Obviously, the employer will introduce the machine, and save 3,000 francs annually; while an employer paying wages at the rate of 1,000 francs will just as obviously not introduce the machine, since it will occasion him a loss of 1,000 francs a year. The economy of the machine in one case and of the manual labor in the other is sufficiently obvious under the conditions supposed; but the deductions drawn therefrom appear a bit fallacious, when it is borne in mind that the cost of the machine is itself dependent upon wages paid to workmen employed in its construction. In the country where wages were 1,000 francs, the machine would probably have cost but 25,000 francs, so that the same economy must have resulted from its employment in either case. Where wages are high, the cost of the machine is high also. The real incentive to the introduction of machinery lies not in the rate of wages, but in the economy of labor.

In considering the general rate of wages in the United States, M. Levasseur is led to discuss the causes regulating normal wages; and, after insisting upon the futility of assigning any one simple cause as the sole regulator of wages, he proposes the following formula: "*Wages are regulated by divers complex causes, which act severally upon supply and demand, determining the special rate within each industry and for each individual. From these special rates statistics attempt to deduce the general average rate within a country.*" These causes he enumerates as follows: (1) productivity; (2) competition; (3) cost of living; (4) capital employed as fixed and circulating (the last corresponding with the wages fund), taking into account rapidity of circulation; (5) activity of production and "amount of consumption soliciting production." "These causes," concludes M. Levasseur, "act wherever the contract of labor is free, in America as well as in Europe. Several of these causes, however, act with greater intensity in

America than in Europe. Productivity, which is on the average higher, the cost of living, which is greater, and the circulation of wealth, which is rapid, tend to raise the average rate of wages; while competition which is due to immigration tends to force wages down."

Economists have pretty generally recognized the fact that the amount of product to be apportioned is determined by the productivity of labor and capital, while competition, on the one hand of labor and on the other of capital, determines the repartition of the product; but that the cost of living in a country is in any sense a co-ordinate cause, regulating wages, many will be disposed to deny. To say that wages are regulated at all by cost of living seems equivalent to the assertion that what a laborer spends regulates what he gets. Further, it is difficult to attach to the last two causes mentioned above any significance which will make them independent causes not already designated under productivity and competition of labor and capital. Indeed, if an enumeration in detail of the complex causes affecting wages, or even of the more important causes so acting in any one country, such as the United States, is here contemplated, the enumeration is quite incomplete,—such an enumeration in detail of causes regulating the rate of wages must mention as chief among these the natural resources of the country, state of the arts and sciences, education and efficiency of laborers and employers; while, as a recitation of general causes regulating wages, the co-ordination appears altogether unsatisfactory.

M. Levasseur hazards an estimate of average wages in the United States for men employed in industry during the years 1890-93. The average, he believes, ranged from \$1.75 to \$2.00 a day. He insists, however, that the elements are too diverse and incomplete to be calculated; and the data immediately presented would seem to bear witness to the unsatisfactory character of such averages. The paragraph immediately following the one in which the above calculation is made quotes from the Aldrich report average wages for July, 1891, at \$2.07. On the opposite page, data for 1895 quote average wages in four cities, as follows: Baltimore, \$1.93; Boston, \$2.61; New York, \$2.34; Philadelphia, \$2.34. In a note appended on the

same page average wages are estimated of 83,051 employees — men, women, and children — in Connecticut during 1896 at \$1.66, and in several industries respectively at \$2.15, \$2.04, \$2.15, \$1.76, \$1.92, \$1.64,— the highest wages being five or six dollars and the lowest fifty cents a day. The insignificant character of any *average rate* of wages is sufficiently obvious. It appears that we have in the United States, more especially in our cities, a considerable class unable, either from indisposition, intemperance, inefficiency, or accident of environment, to support themselves, and it follows necessarily that we have also individuals living in every state, from absolute poverty to luxurious abundance. This is true not only of the United States, but of all other countries. To say that average wages in the United States are higher than in some other countries can mean only that the class whose wages are at the higher level probably forms a larger proportion of the total population in one community than in the other. But of this we may not be sure, since the average does not indicate how the wages are distributed. An average wage of \$2.50 a day may indicate that there are 100,000 laborers at \$2.00 and 20,000 at \$5.00, or it may mean 100,000 men at \$2.00 and 100,000 at \$3.00, or 50,000 men at \$1.00, 50,000 at \$2.00, 50,000 at \$3.00, and 50,000 at \$4.00. The possibilities are indefinitely great. Furthermore, aside from the insignificant character of any average rate of wages, considerable ambiguity attaches to the general statement that average wages in the United States are higher than average wages in European countries. Does the statement mean that laborers in the United States, working under the same conditions, producing the same product, and employing the same amount of capital, receive a greater share of the product? or that laborers employing the same amount of capital, working under like conditions, are more productive in the United States? or that, other things being equal, owing to the employment of machinery, labor and capital are both more productive, and that consequently the general level of both wages and *profits* is higher?

In his discussion of wages M. Levasseur raises a question which he regards as still in controversy in economic theory,— namely, "whether demand regulates supply, or supply de-

mand"; and he concludes that "a free consumption of goods in a population by absorbing the product of industry stimulates production." Economists have for a long time fully appreciated the ambiguity popularly attaching to the terms "demand" and "supply." Simply stated, the scientific formula that demand must equal supply resolves itself into the self-evident thesis that a population must produce what it consumes. There is here involved no question of economic distribution at all, but only a question of amount of product to be distributed. And this holds true not only of the population as a whole, but of every industrial group within the population. In a sense, just as every individual within a community wants and would consume more than he is willing or able to earn, so every group wants and would consume more than it can or will earn; but this is not economic demand. Just as the labor of every individual has its economic value, great or small, so has the labor of every industrial group within the community a value determined by competition and efficiency. The ultimate demand of any group is measured by the amount of the labor exerted. The number of hours constituting a day's labor within any group is determined by the marginal utility of the product per hour. Each additional hour worked adds an increase of product possessing less and less marginal utility, while the sacrifice involved in each additional hour's work is an increasing one. The number of hours worked per day is fixed at that point where the sacrifice undergone is exactly rewarded by the marginal utility of that hour's product. The choice made by a group of laborers in adopting an eight-hour day is for release from further toil in preference to further reward, which might result from a ninth or tenth hour of work. The efficient economic demand of a group is measured by the labor performed by that group. It is labor exerted, not consumption of goods, which constitutes the demand. This was sufficiently obvious under simpler conditions of production, where individual producers brought their completed product to market and there exchanged it against other goods. That the division of labor now makes it necessary for groups of laborers to combine in the production of a single article may complicate the problem of distribution of the product of labor,

but does not alter the economic laws in accordance with which that distribution takes place. Great economic demand or consumption, therefore, may be an evidence of productive activity, but does not in itself stimulate that activity.

M. Levasseur concludes that the rate of wages within the United States is likely to remain high for a considerable period to come, owing to the great productivity of industry and accumulated wealth within the country. Whether that rate will rise or fall he considers a "delicate question, to which one may only reply, 'perhaps.' If the increase in the demand for labor, in agriculture as well as in industry, should not continue to absorb so easily in the future as it has done up to the present time the increment arising from immigration, wages may decline. Furthermore, there appears to me as great a likelihood of a decline in wages during the next thirty years, owing to the abundant supply of labor, as there is likelihood of a rise, resulting from productivity and from a distribution of the product of industry more favorable to labor." This certainly is a significant expression of opinion by one who may speak with authority. Nevertheless, it is difficult to see how such a conclusion is warranted by the data presented in M. Levasseur's pages. That the number of immigrants arriving from year to year should be sufficient to cause a lowering of the general rate of wages in the immediate future seems unlikely. The average annual immigration during the last seventy-five years of this century has amounted to less than 250,000 men, women, and children. Even if we accept M. Levasseur's statement that "the United States, with a population made up entirely from immigration, cannot now renounce its origin and close its frontiers to the further accessions of that character," on the supposition that immigration shall remain during the next thirty years unrestricted by legislation, and that the tide of immigration still flows on at the rate maintained during this century, an increment of 250,000 must prove insignificant in a population which will undoubtedly equal 100,000,000 in the course of the next ten or fifteen years. But, if immigration should really "cast a shadow over the whole laboring class," the nature of our origin will hardly stand in the way of such restrictive legisla-

tion as may appear advantageous. Certainly, the United States is not bound to receive within its borders immigrants of an objectionable character; in fact, it is not unlikely that those natural barriers which have tended to disappear with increasing facilities for cheap and quick transportation, will be succeeded by artificial restrictions of one kind or another. The real reasons for placing restrictions upon immigration, however, are not to-day—nor are they likely to be in the future—economic. The introduction into any community of an abundant supply of cheap labor is economically advantageous to those exploiting the cheap labor, in much the same way as is the introduction of cheap and efficient machinery. There is no reason to fear that a community will get its work performed too cheaply. If, however, the labor coming to us from Europe is as efficient as native American labor, it will earn equally high wages. If less efficient, wages correspondingly lower. If less efficient, such labor cannot compete with native American labor on an equal footing. It will add another group of labor to our industrial population possessing a smaller productive capacity, receiving, consequently, lower wages, and maintaining a lower standard of living. The fear that such a class of laborers might displace and reduce the wages of more efficient laborers is as groundless as the fear that the introduction of improved machinery will work the same injury. So far, therefore, as the high rate of wages in the United States is due to greater efficiency, there is no reason to fear that the introduction of cheaper labor will cause a lowering of that rate.

If wages decline in the United States, it must be due to the fact that the field of employment is so occupied by increasing population as to bring into operation the law of diminishing returns, thus impairing the general productivity of labor and capital; and that any such overcrowding of the field of employment, necessitating a lower standard of living, is likely to occur in a democracy, the history of the French population itself would seem sufficient to disprove. The decline in the rate of natality already manifest among the native American population is a further evidence that in a democracy the movement is naturally from a lower to a higher standard of living.

M. Levasseur predicts that this decline in the rate of wages, should it occur during the next twenty or thirty years, will meet with the most determined opposition on the part of organized labor, and that "in such an event the repartition of the product of industry between the three factors of production will be so modified by that opposition that employers of labor will be forced to lower the rate of profits, and more than in proportion to the decline in the rate of wages." But, if laborers by simple organization and determined opposition can in such event force down the rate of profits, why may they not affect the same results under normal conditions? And, if the rate of profits is not determined in accordance with some economic law of distribution, if it is not dependent upon the conditions of production and the accumulation of capital seeking employment, what is to prevent laborers by organization and determined effort from wiping out profits altogether? Either it is true or it is not that the repartition of the product of industry rests upon economic laws; and, if not, why, especially in a democracy, should not all of that product be turned over to the laborers in the form of wages? The executive capacity which enables employers to-day to command great reward for their services is not likely, in the course of an industrial evolution which every year more and more complicates the direction of labor, to decline in value nor to content itself with lower rewards; while, surely, the return to capital as such, however settled, is not subject to scaling *ad libitum* by simple pressure from organized labor.

In considering some of the economic aspects of modern capitalism M. Levasseur raises a question which has been the subject recently of much popular discussion; *i.e.*, whether the introduction and employment of machinery may not occasion an overproduction of wealth. By a simple train of reasoning the reader is brought to the conclusion that "there can never be in the world too much wealth." This overworked economic epigram has served well enough in its day as a quietus upon those who proposed the theory of overproduction in all its naive fallacious simplicity; but it is no answer to the more clever and better informed overproductionists of to-day. These writers are far too clever to make the crude assertion

that there can be too much wealth in the world. The gist of their contention lies in the assertion, not that there is too much wealth produced, but that wealth gets into the wrong hands; namely, into the hands of those who do not wish to consume it, while those who have the wish to consume have not the power. "The power to consume and the wish to consume reside in different individuals." The fallacy here is of a more subtle character, and arises from an incomplete conception of economic production. The obvious fact in economic production is that a little labor on a great machine suffices to produce a great amount of wealth. Of this great product a small portion is turned over to laborers in the form of wages. For the rest there is no demand. The owner cannot consume it because it is his capital, and in a form inconsumable so far as he is concerned: the laborers cannot consume it because they already have their wages, and so have no claim on the product remaining. The fallacy lies in overlooking the cost of the machine, and in supposing that the product can generally retain an exchange value independent of that cost, the fact being that such an artificial value can be maintained only in special cases, as where patent rights have been issued or where values are in a state of transition, adjusting themselves to new labor costs. Where values are in a state of equilibrium, there is no excess product over the cost of production. In other words, the value of the product is made up of wages paid directly by the employer to his employees, and wages paid by him indirectly in the purchase of the machine, including under "wages" wages of superintendence. So that the value of the product is normally consumed *during the process of production*. How, then, can this process result in general overproduction?

It is probably in his constructive economic reasoning that M. Levasseur lays himself most open to adverse criticisms. In justice to the author, however, it is to be stated that he does not offer the present work as a treatise in economic science. On the contrary, M. Levasseur frankly everywhere subordinates "theory" to historical, statistical, and narrative description. His subject, however, is one which does not lend itself to purely descriptive treatment; and frequently he is

led into the intricacies of abstract science. Since the welfare of the American workman depends upon the maintenance in the United States of a high rate of wages, M. Levasseur is led to consider the causes regulating that rate. So, in adverting to current social dogmas, labor legislation, State interference, and the like, M. Levasseur is repeatedly led away from the concrete. Nevertheless, the work has, as its author intended it should have, the "character chiefly of an economic history." "An interest attaches to economic phenomena," he observes in his preface, "in and of themselves, independently of possible generalizations. To observe accurately as great a number as possible of these phenomena is an author's first task; his second, to choose among the mass of phenomena with discrimination and with a due sense of his own responsibility." In rendering his account of the American workman strictly impartial, M. Levasseur has chosen to introduce a somewhat unrefined mass of data. Perhaps to American readers it will appear that M. Levasseur's desire to be impartial has somewhat inhibited his selective judgment in the choice of data and authorities. American readers would have welcomed from so renowned a scholar a more critical handling of material. But this very freedom from personal coloring is unquestionably a chief excellence in the work, considered as a manual of information for French readers.

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MS. A. 9. 2

NOTES AND MEMORANDA.

THE INDIA CURRENCY PROPOSALS.

It is a matter of some surprise that the Currency Proposals recently submitted by the government of India to the Secretary of State for India in London have attracted so little attention on this side of the Atlantic. Garbled statements have appeared in the papers from time to time, and incidental reference to the proposed measures was made by several speakers in the course of the Senate debate upon the silver seigniorage coinage clause of the war revenue bill. In the main, however, there has been neither a full understanding of the nature of the Proposals nor any appreciation of the stir which their publication has caused in English commercial and financial circles.

It is now admitted alike by opponents and advocates of the closure of the Indian mints to the coinage of rupees in 1893 that this action was taken without any clearly defined policy as to the subsequent steps which it rendered necessary. The Indian government has upon every occasion since asserted that the establishment of a gold standard was then already in view. But it seems clear that the anticipated program was little better than a policy of monetary drift, and that it was expected to attain a higher exchange,—that is, a higher gold value of the rupee,—simply by the natural expansion of Indian trade and commerce relative to a stationary or, indeed, to a gradually diminishing rupee currency. A maximum to this appreciation and a channel for the expected influx of gold were defined by the Notifications of June 23, 1893, whereby gold was made receivable at the Indian treasuries in payment of public dues and at the mints in exchange for rupees, at the rate of one sovereign for fifteen rupees. In short, it was hoped to stabilize exchange at 1s. 4d. by the introduction of a scarcity rupee.

Five years have since elapsed; and, despite the cessation of rupee coinage and the periodic suspension of Council Bill sales, together with heavy borrowings in London, Indian exchange has not been definitely established at the desired rate. The average exchange value of the rupee realized by the Indian government has been 14.547*d.* in 1893-94, 13.101*d.* in 1894-95, 13.680*d.* in 1895-96, 14.449*d.* in 1896-97. Some months ago exchange hovered near the maximum point; and provision was made, by the amendment of the Indian Paper Currency Act, for the telegraphic issue of rupees in India upon the deposit of gold in London at a rate slightly above 16*d.* Exchange speedily relapsed, however. Not a sovereign was so tendered; and it is now openly admitted by the India Council that the automatic accumulation of gold in this manner is "extremely unlikely."

The upward course of the rupee has unquestionably made it easier for the Indian government to meet its sterling charges. On the other hand, it has left trade with India still exposed to the fluctuations of exchange; and, by stimulating the withdrawal of capital from India while exchange is high and uncertain, it has created a money famine, of which incidents have been a bank rate of from 10 to 12 per cent. and the refusal of loans upon the security of gold bars. Leaving out of account the possible effects of the mint closure upon the competitive trade of India and upon the value of the native hoards of uncoined silver, it will be seen that the evil of a depreciating rupee has been corrected, the mischief of a fluctuating rupee remains.

In a remarkable despatch of September 16, 1897, in reference to the preliminary bimetallic agreement arrived at by France and the United States, the government of India characterized that date as "a time when we are to all appearances approaching the attainment of stability in exchange by the operations of our own isolated and independent action." To persons practically concerned with Indian exchange and to students of the Indian currency question, this roseate view seemed unwarranted and misleading. Whatever doubt may have existed as to the fact has been completely dispelled by the course of subsequent events; and the Indian government

has been finally led by the intolerable condition of affairs in India, and by the growing discontent in England with the policy of waiting for the country to grow up to a 16*d.* rupee, to an admission of the inadequacy of the passive course hitherto pursued and to the proposal of certain drastic measures for attaining that same end. These proposed measures are embodied in a despatch of March 3, 1898, and have been referred to a Special Committee appointed by the Secretary of State for India, under the chairmanship of Sir Henry H. Fowler, to take into consideration the whole subject of the Indian currency system.

The key-note of the proposed change is an outright contraction of the rupee currency to the degree necessary to establish a 16*d.* exchange, with a replacement of the resulting treasury deficit by gold borrowed in London and ultimately available for currency purposes. The total rupee currency of India is estimated as somewhere about 120 crores (1,200 million rupees), exclusive of a fiduciary circulation of 10 crores of currency notes. It is assumed that this amount is redundant, relative to the proposed sterling equivalent of the rupee. To what extent contraction is necessary to attain a 16*d.* exchange, no attempt is made to determine; but 24 crores — the amount of currency notes in circulation — is arbitrarily hit upon as "the outside limit," and the opinion is expressed that the amount really necessary will be far short of this.

The mere accumulation and segregation in the Indian treasury of the, say, 20 crores necessary to reduce the circulation to the proper point is regarded as open to the double objection of losing the interest upon the sum thus permanently locked up, while the very existence of such an accumulation of silver coin would be a perpetual menace to the exchange market. Accordingly, it is proposed to effect a permanent contraction by melting down the rupees withdrawn from circulation, and selling the bullion silver in the native market. This is to be done at the rate of 10 crores a year, worth as bullion — with silver at its present value — about 6 crores. It is naïvely assumed that these sales can be effected without depressing silver, since the average annual imports of the metal into India since the closure of the mints have been about 6

crores. After two years the Indian currency will have been reduced two hundred million rupees by these operations. One hundred and twenty million rupees will have been secured by the sale of the bullion and paid over into the Indian treasury, leaving a deficit in the treasury balances of eighty million rupees to be supplied by gold borrowed in London. Estimating the rupee at 16*d.*, the sum of £5,300,000 will be required for this purpose. If the bullion silver sold realizes a lower price or if additional sales are necessary, the treasury deficit will be greater, and more gold must be borrowed. In any event, authority is asked for a maximum loan of £20,000,000, of which one-fourth is to be borrowed and shipped at once.

This gold is to be ultimately available for currency purposes, but it is not to be parted with until an exchange rate of 16*d.* has been attained. By the end of two years, if not before, it is believed that the rupee will have become stable at 16*d.* Should this not prove to be the case, the same process of contraction is to be continued until the desired result is attained, after which gold will flow into the country and the Treasury will release its own holdings!

In short, the reform is to be accomplished by an outright reduction within two years of one-sixth in the amount of the rupee currency, and this process of contraction is to be continued until the proposed exchange rate has been attained. Bearing in mind that in a country such as India the evils of contraction are felt in much more than direct proportion with the actual reduction in the currency, it will be seen why the scheme, for this reason alone, has been pronounced by thoughtful men of every shade of monetary opinion crude in theory and pitiless in practice.

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RECENT STATISTICS ON WAGES.

The statistical material relating to the course of wages and the progress of the working classes during the last two generations has been enriched by two recent publications,—one a brief report by the Massachusetts Bureau of Statistics of Labor, the other an elaborate report by the French Office du Travail. Both investigations were directed to the condition of workmen over a long series of years, and refer to the course of retail prices as well as of money wages; and both are of value alike on the social and on the monetary aspects of recent economic history.

The Massachusetts Report* continues previous inquiries on the same subject, with the result that we have figures on wages and on retail prices collected on a like method for the same industries and the same articles for the years 1860, 1872, 1878, 1891, and 1897. No attempt is made to work out an index number summarizing the general movement; and, in view of the fact that figures could not be secured continuously for each of the selected years, it was doubtless wise not to attempt to construct a representative scale of a disputable sort. But the general course of events is clear from an inspection of the tables. Money wages were lowest, almost without exception, in the initial year 1860, and at each of the later years were higher than they were at the beginning. As to the years 1872, 1881, and 1897 (which cover the much-disputed period since the fatal year 1873) the results are thus summarized in the report: "In general, the returns indicate higher wage rates in 1897 than in 1881, only eight of the classified industries in the list presenting exceptions. Of these industries, however, two show a higher rate in 1897 than in 1872. On the contrary, a decline in general appears between 1897 and 1872. To this statement, four industries present exceptions. Two of these—namely, the Building Trade and Carpetings—show an increase in 1897 as compared with both

* See the *Twenty-eighth Annual Report of the Massachusetts Bureau of Statistics of Labor, 1897, Part I., pp. 1-42.*

1881 and 1872." It need hardly be said that the figures for 1872 were corrected for the depreciated paper of that time, and arranged on a gold basis. It is probable, indeed, that in gauging the significance of the figures for that year some further allowance should be made for the inflated conditions of the speculative period 1871-73; but here questions of interpretation arise with which the statistician is not called on to deal.

As to prices, the results are of a more familiar sort, though they are of unusual value in that they give retail prices carefully collected for articles of uniform quality. Nearly all things have gone down in price, even rents. "As compared with 1872, all the articles of Groceries show lower prices in 1897 except corn-meal, and all the articles of Provisions except mutton chops." On the family budget method,—that followed in the Aldrich Report of 1892,—it is calculated that for a representative family the decline in the expense of groceries was in 1897 6.67 per cent. as compared with 1881 and 30 per cent. as compared with 1872; while for provisions the decline was 18.52 per cent. as compared both with 1872 and 1881.

The French investigation is much more elaborate. It covers the period from 1840 to 1897, fills four portly volumes, and gives a vast array of figures in detail.* The material here collected will be of service in many directions to the statistician and to the student of economic history. On the general course of money wages in France the introduction to the concluding volume gives "quelques chiffres [qui] vont suffire à marquer le chemin parcouru." These figures, indicating the trend of money wages during the past half-century, are as follows (in francs):—

* *Offices du Travail: Salaires et Durée du Travail dans l'Industrie Française. Tome I., Département de la Seine; Tome II., III., Départements autres que celui de la Seine; Tome IV., Résultats Généraux.* Paris: Imprimerie Nationale, 1897.

	1840-45	1853-57	1860-65	1874	1891-93
All workmen in the departments * .	2.07	-	2.76	-	3.90
All workwomen in the departments	1.02	-	1.30	-	2.15
All workers in coal mines . . .	2.10	2.35	2.60	3.56	4.20
Masons in the departments . . .	-	2.25	-	3.15	4.05
Masons in Paris	4.15	4.25	5.25	5.50	7.50

Elsewhere another summary table is given, resting on the same set of data. The figures in this case are arranged on an index number plan, the number 100 indicating the rate of wages for 1891-93.†

	1840-45	1853	1860-65	1874	1883	1891-93
All workmen	52	-	69	-	-	100
Masons (provinces)	-	52	-	78	91	100
Day laborers (provinces) . .	-	49	-	80	89	100
Carpenters (provinces) . . .	-	51	-	80	92	100
Painters (provinces)	-	52	-	76	90	100
Nine classes of workmen (provinces)	-	52	-	79	90	100
All workers in coal mines . .	50	52	62	85	91	100
Building trades in Paris . . .	54	57	70	77	100	100
Normal index number for each period	52	52	68	80	91	100

Money wages thus have doubled in the course of the half-century; and, what is more significant, they have continued to advance during the latter part of the period (*i.e.*, since 1873), when the prices of commodities have been falling.

* *I.e.*, not including the Department of the Seine. The table appears at p. 25 of the general introduction to Volume IV.

† The table appears at p. 277, Vol. IV.

As to the prices of commodities bought by workmen, the French inquiry makes comparison chiefly between the beginning and the close of the period. During the half-century between 1840 and 1891-93 it appears that retail prices have risen, but not so much as money wages. Rents, it is true, have more than doubled (and it is to be assumed, though it is not expressly stated, that the "logement" which has thus appreciated is of the same quality). But food has been so cheapened that for lodging and for the same nourishment the workman needs to spend but 25 per cent. more; while for clothing and other things prices have so far fallen as to bring down to an even smaller figure the increase in the "*frais d'un même genre d'existence*." It is noted, also, that the distribution of the expenditure of the workmen, under these steadily improving conditions, has not much varied. About the same proportion of income continues to go to lodging, to food, and to other things; whence it follows, as the price of objects of necessity has advanced but little, that their consumption has greatly increased.

No such careful comparison is made as to the expenses of living during the later part of the period; *i.e.*, during the twenty years from 1873 to 1893. But for Paris the following instructive figures are given, indicating what was the annual expense for a Parisian workman of an estimated ration,—so much bread, so much meat, so much fuel, and so on. Such a budget would show the following results for decennial periods:—

<i>Period.</i>	<i>Food, heat, light.</i>	<i>Lodging.</i>	<i>Total.</i>
1844-53	931 fr.	120 fr.	1,051 fr.
1854-63	1,052	170	1,222
1864-73	1,075	220	1,295
1874-83	1,093	270	1,313
1884-93	993	320	1,353

Food, light, heat, increased in price until 1873, and since then have fallen in price. Clothing has probably fallen in price throughout the period, while rents seem to have risen throughout. Since 1873 the movement of wages and prices has been inverse: wages have risen, while prices have fallen.

From both investigations it appears that money wages have not shared the downward movement which the prices of commodities have shown since 1873. In France money wages clearly have advanced. In Massachusetts they at least held their own between 1881 and 1897. It is true that some decline appears for Massachusetts in 1897 as compared with 1872, but it is a question how far the year 1872 affords a satisfactory basis for comparison; while the year 1881, when specie payments had been resumed and prosperity had fully set in, may give such a basis. The statistical material on this part of the history of prices still needs to be completed and carefully worked over; but the inquiries here summarized confirm the general conclusion that, during the period in which the much-discussed fall in prices has taken place, money incomes have either remained stationary or have risen,—at all events, have not fallen; an aspect of the “appreciation” of gold which deserves more attentive consideration than it commonly receives.

T.

AMONG recent announcements we note the *Science of Finance*, by Professor Henry C. Adams, to be published shortly by Messrs. Henry Holt & Co. The book will suggest a financial system taking into view the necessities of the federal government and of the several States and their local bodies. The same firm will publish, in the course of the winter, a volume of selected essays in economics by the late Francis A. Walker. Messrs. Macmillan announce *The Distribution of Wealth*, by Professor John B. Clark, and *Elements of Sociology*, by Professor F. H. Giddings.

THE Parliamentary Committee on Old Age Pensions, appointed in 1896, has made a report (dated June, 1898) the gist of which is that no recommendable scheme was discovered. It should be noted, however, that the committee, by the terms of the reference, found itself precluded from considering schemes based on compulsion, and hence could not examine any plan, on the principle of the German system, for a universal grant of pensions or for compulsory contributions towards pension funds. There remained only plans in which some voluntary contribution or provision was a condition of aid. As to all such, the committee concluded that, on the one hand, they would be limited in their effect to a small section of the community, not including the persons most in need of relief; while, on the other hand, they would discourage thrift. Hence the negative conclusion of the report, which doubtless disposes of the old age proposals for the time being. None the less, all signs point to the continued discussion of the subject, and to the discovery and enactment, sooner or later, of some acceptable scheme, possibly going the length of the compulsory and universal provision, which this committee was not instructed to consider.

ALMOST simultaneously with the passage of the French Workmen's Compensation Act, described in the last number of this Journal, a similar measure for the compensation of workmen injured by accident was enacted in Italy, bearing date March 17 of the current year, and going into effect October 1. While accepting the principle of compulsion, and therein following the German measure from which has come the main impulse to this form of labor legislation, the Italian act is like the English and the French in that it leaves some choice as to the mode in which the required provision shall be made.

It establishes compulsory insurance of workmen against accident at the charge of their employers. All workmen employed in manufacturing enterprises where power is used (provided as many as five are employed), all in mines, railways, and transportation, building operations, and the like, are to be insured; but agriculture and shipping are not affected. The indemnity in case of complete and permanent disability is five times the yearly wages, but not less than 3,000 lire; in case of partial disability, a sum proportionally reduced. Where there is temporary disability, the indemnity is one-half the wages if the disability is complete, and proportionally less if it is partial. If the accident results in death, the workman's heirs get five times his yearly wages in a lump sum. The employers may assume their obligations for themselves, may insure in insurance companies of the ordinary form, or may form mutual insurance associations of their own. If permanent total disability ensues, the indemnity must usually be turned over to the State Pension Fund, which is then to pay an annuity to the injured workman. The contingency of the employer's insolvency seems to be less carefully guarded against than in the French law, the only provision being that all receipts from fines and other windfalls shall be set aside to meet such defaulted payments.*

In general, the expectation of the Italian legislators, as of the French and English, has evidently been that employers

*The text of the act has been printed by the Ministry of Agriculture, Manufactures, and Commerce (Rome: Tipografia Nazionale di G. Bertero). A careful summary of the provisions is in the English *Labour Gazette* for May, 1908.

will be led to insure themselves against the obligation to indemnify for accidents, and that the effect of compulsion will be, not a great growth of government administrative machinery, but a wide use of mutual insurance associations. Yet the drastic principle of compulsion remains in the act, which thus marks another step in the rapidly spreading system of compulsory provision against workmen's accidents by their employers.

THE "War Revenue Act," passed by Congress on June 13 of the current year, contains some provisions which are likely to be of lasting importance. While the internal taxes levied by the act may come to be permanently incorporated, in greater part or less, in the federal revenue system, their future is quite uncertain; and, at the least, they will almost certainly be much remodelled. Some fiscal and monetary matters, however, are disposed of probably once for all.

The fiscal position of the Treasury of the United States is greatly strengthened, not so much for the immediate exigency as for its operations in the long run, by general authority to borrow from time to time, by means of notes running not more than a year, to the extent of one hundred millions. The Secretary may borrow "such sums as, in his judgment, may be necessary to meet public expenditures." The authority given elsewhere in the act for the issue of bonds is limited, being available only for war expenditures; but that for the temporary notes is unrestricted except as to amount, and will remain so long as this section is not specifically repealed. The need of some elastic resource of this kind has long been obvious, and the failure to supply it has been due mainly to the unfortunate intertwining of the routine affairs of the Treasury with the disputed monetary questions. Such simple and sensible authority as is now given would have vastly bettered the situation in 1894-95, when the loans of the Cleveland administration were made. While not likely to be resorted to in the near future, it is certain that the time will

come when this power in the hands of the Secretary, now so readily given, will prove of inestimable benefit.

On the currency situation a last step is taken towards winding up the consequences of the anomalous legislation of 1890. The silver-purchase act of that year had provided that, of the Treasury notes put forth in payment of silver bullion, "no greater or less amount shall be outstanding at any time than the cost of the silver bullion and the standard silver dollars coined therefrom, then held in the Treasury purchased by such notes." Whatever uncertainty may have resulted from this puzzling proviso has now been removed by the requirement that each month at least one and one-half million silver dollars shall be coined from the bullion purchased, until all of it is converted into coin. The paper representatives of this coin—whether Treasury notes or silver certificates—must then be no less than the amount of the coin; since this coin is to be "used and applied in the manner and for the purposes named in said act" of 1890. Every ounce of the silver bought under that act is to be coined into silver dollars, and these, or their paper representatives, must take their place in the nation's currency.

It may not be amiss to recall that the Treasury records show that under the act of 1890 there were purchased 168.7 millions of ounces of silver. From these there had been coined, up to July 1 of this year, 78.7 millions of silver dollars. There remained on hand, on July 1, 107.7 millions ounces of bullion, which, when coined, will make 139.2 millions silver dollars. The amount of silver currency—whether in the form of dollars, certificates, or Treasury notes—by which the money of the country will be enlarged under the act of 1890 and its sequel thus reaches the imposing total of 218 millions of dollars.

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[Chiefly published or announced since July, 1898.]

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